Memo from the Editor

Next month is June, the dairy month. From one end of the land to the other the story of milk and dairy products will be carried to the public. By magazine, newspaper, radio, public ceremony, store advertising, display posters, and word of mouth the great message will be broadcast. Led by the American Dairy Association and the National Dairy Council, state and local associations will give of their time, their energy, and their money to make June a real dairy month.

For dealers, particularly, this vast promotional program is found money. All they have to do is pick it up and use it.

N.M.

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Domestic subscription ..... $2.00 per year
Foreign subscription ..... $3.00 per year

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published monthly by the urner-barry company
92 warren street ● new york 7, n. y.

XUM

There was, in a New England town, an energetic Yankee whose logic was at times subordinate to his shrewdness. Of a gentle spring day he purchased a pig for the sum of five dollars. During the summer he fed and cared for the pig. The animal grew fat and sassy under his ministration. Fall came and the entrepreneur determined to sell his pig. He found a buyer and parted with the creature receiving the sum of five dollars. A neighbor heard of the transaction as New England neighbors will. "Ezra," he observed, "Haow do you expect to make a dollar if you buy for five and sell for five. There's no profit there." "Well," replied Ezra, "I had the use of the pig all summer."

PATTERN FOR DISASTER

By NORMAN MYRICK

HOW LONG can a milk handler buy and process milk for 18 cents a quart and sell it for 16 cents? How long can he stay in business when his monthly statement shows a loss of anywhere from three thousand to three hundred thousand dollars? What happens to the market pool when handlers can no longer pay their bills? What happens to an industry when suspicion replaces trust, when friend no longer speaks to friend, when bitterness is the fruit of labor?

These are not idle questions. To the three hundred odd milk dealers in New York City's great metropolitan market, locked in the grim reality of a disastrous price war, the answers will spell out survival or bankruptcy.

New York is not alone in its travail. Other markets have been struck by war or have seen its shadow in the background—Dallas, Youngstown, San Francisco, Milwaukee. But in none of these other markets has the conflict over prices thundered with quite the devastation that it has on Manhattan Island. Since October 13, Black Thursday, it is reliably estimated that not one milk dealer in the city has made a profit. On the contrary, dealers have suffered such staggering losses that the continued operation of the Federal Marketing Order is threatened. Firms that have supplied milk to the sprawling metropolis for generations are drawing on their capital reserves in a desperate effort to ride out the storm.

Wars, price wars included, do not just happen. Behind them there is always a history of events, controllable and uncontrollable, that have built up to disaster. In the case of New York the events were largely controllable. The war did not need to take place. Undoubtedly price adjustments were in order but it does not follow that they had to take the vicious course that developed.

From Within and Without

The events that produced the war in New York occurred both within and without the industry. A combination of political attacks, a series of unfortunate marketing practices, ample milk at cheap prices exploded into a full fledged price conflict. Although the spark that ignited the powder keg may be the work of specific individuals and specific firms, the ultimate responsibility for the creation of an explosive situation belongs to the industry, the city, and the state and federal governments.

On October 13, 1949 Sheffield Farms Company, a National Dairy Products Corporation subsidiary, cut the price of milk 1½ to 2½ cents a quart retail and 1 cent a quart wholesale. In the seven months that have elapsed since that wild Thursday another 2 cent decline has taken place. This latter drop, however, was due to a reduction in the producer price and did not affect the dealer spread. In little over a year the price of home delivered milk has declined by 6 cents a quart. The wholesale price has gone from 21 cents for milk in glass to 16 cents on April 1 of this year.

The Sheffield price cut threw the market into turmoil. Other dealers met the new prices and the war was on. The action was denounced as unfair competition. Requests were made to the State Commissioner of Agriculture and Markets that the Sheffield license be revoked. Mr. Francis Elliott, President of the Farm Products Division of the Borden Company, the distributing unit of that organization in New York, declared, "although no economic justification for such reductions exists, the Borden Company will meet fully the competi-

tive prices." None of these moves had any effect. The Commissioner took no action and the hot resentment of the other dealers failed to make any apparent impression on Sheffield's determination to press home the attack. Battle flags were flying all over the city. The struggle developed devoid of any of the fine examples of high courage that give a patina of nobility to actions on the battlefield. It was dog eat dog and Devil take the hindmost.

It is difficult to assess accurately the factors that brought Sheffield to the point where a price war was deemed the only course. While officials of other milk concerns were willing to discuss the situation with a representative of the *American Milk Review*, Sheffield management, although cordial, would not enter into a review of its policies or of the conditions in the market. It follows, therefore, that, while this article endeavors to present the story of the price war fairly and honestly, it is being done without benefit of the Sheffield point of view simply because there was no point of view forthcoming from 57th Street.

The New York market has several characteristics that make it unique. It is probably one of the most, if not the most, competitive market in the country. Some three hundred dealers, large and small, compete for the business. Dominating the market are the big three, Borden, Sheffield, and Dairymen's League. The rest of the dealers are described as the "independents". This distinction is carried into the market place through a peculiar price differentiation. The greater resources of the big firms have enabled them to advertise more extensively than the independents. The result has been that there are on the New York market two prices of milk. Although physically the same as the milk of the independents, the milk of the two large national concerns is called "advertised brand"; the milk of the independents is listed as "unadvertised brand". The unadvertised brands have historically been sold for a half cent to a full cent less than the advertised brands.

Consumers Highly Organized

New York City is also a market in which the consumers are highly conscious of price. Well organized and powerful consumer groups exist. These consumer groups are very vocal and swing more than a little weight in political circles. Labor is likewise highly organized in the city. Both as a problem in the milk industry itself and as a focal point of consumer thinking outside of the industry the unions exercise considerable power. Finally there are the governments, city, state, and federal that have made the New York market about as tightly regulated a market as one will find in all this broad land of the free and the brave.

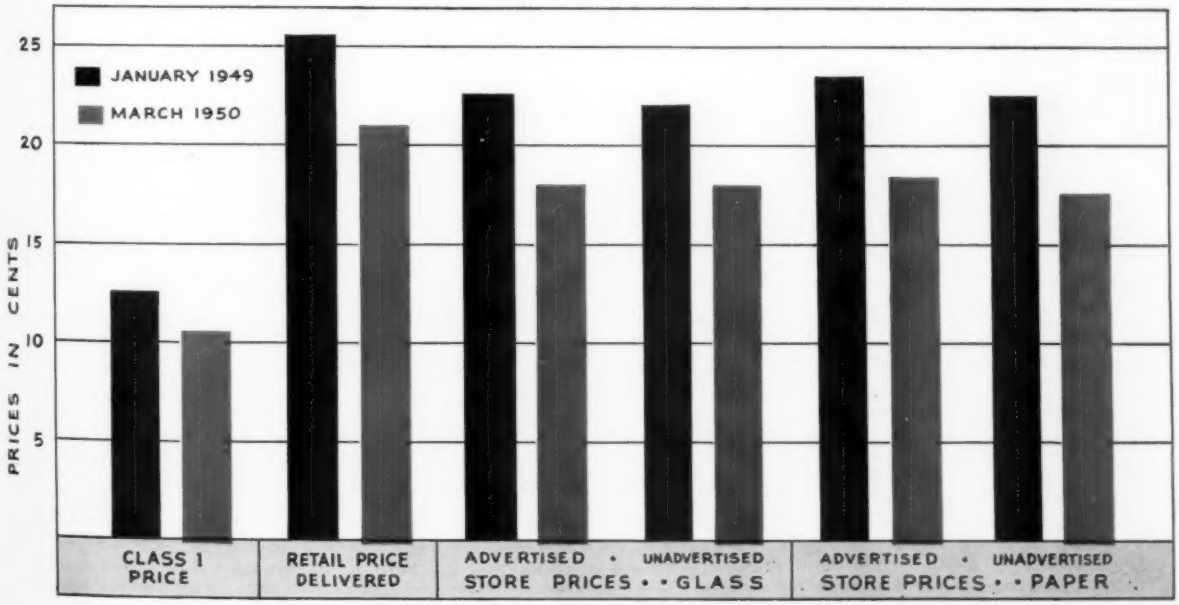
Still another factor that must be borne in mind is the large volume of milk that is sold through the stores, particularly the chains, whose pricing policies set the pattern for the entire retail market. Indeed the real struggle is for this channel of distribution which accounts for 70 per cent of the milk sold in New York City. It is primarily homogenized milk sold in paper containers.

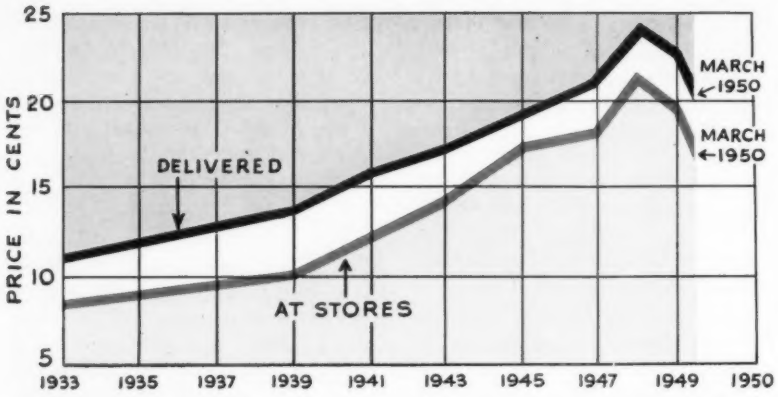
The background picture, then, is a highly competitive market dominated by two large national concerns and a powerful cooperative, whose fluid milk sales labored under the handicap of a historical differential that ostensibly was made up by superior advertising. This competitive market was further complicated by well organized and strong consumer and labor groups plus the political pressure common to most markets although pressure in New York has been brought to a finer edge than in most cases. Milk is definitely a political issue in the city.

Since 1943 Sheffield has not gotten many of the breaks. There is little

MILK PRICES IN NEW YORK FROM JANUARY 1949 TO MARCH 1950

Since this chart was made up prices have declined another half cent. Still another half cent drop to producers is due in June. Presumably the drop will be reflected in a half cent reduction in consumer prices.





The major portion of milk consumed in New York, estimated to be 70 per cent of the total fluid milk used, is sold through stores. This chart shows the price differential between store and delivered prices.

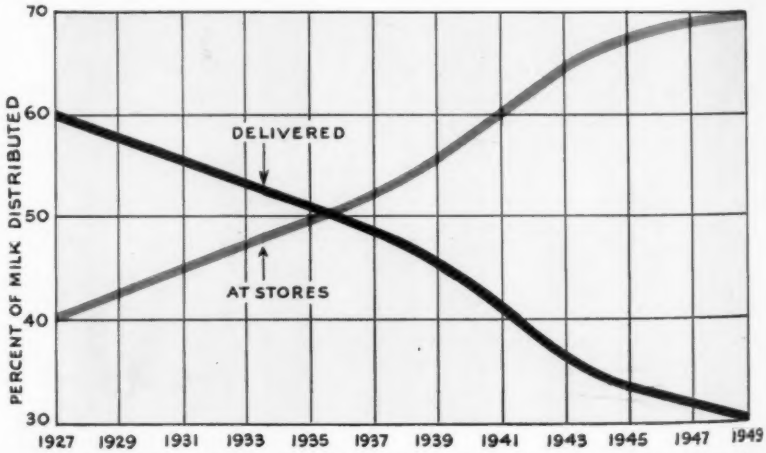
doubt that the introduction of every other day delivery and the freezing of volume under Food Distribution Order 79 in 1943 really hurt. When every other day delivery was first introduced in New York early in 1943 it was looked on with marked distaste by routemen. The routemen, strongly unionized, resisted the new system, in some cases with strikes. The strikes did not last very long but Sheffield suffered a longer period of disturbonce than other dealers. Their men were out for a week. As a result of these disturbances Sheffield lost some business. Shortly thereafter, and before the Company could make up the lost ground, volume was frozen by F.D.O. 79 as of June 1943. This order prevailed until August of 1945. It meant that during the war years Sheffield had to operate on a reduced volume.

The post war period opened with sagging prices. The price to producers remained high and climbed higher but the competition for the consumer market sharpened. Many of the independent dealers, who, through closer supervision of their operations were able to get a better performance from labor, attempted to increase their volume by widening the difference between the price of advertised and unadvertised brands. And, although practically impossible to prove, there were hidden rebates, kick-backs, street corner deals and similar unsavory practices that gnawed relentlessly at the volume of the big three.

Salt was rubbed into the growing sore when, on June 17, 1948 Mayor O'Dwyer ordered the city's Commissioner of Investigations to delve into the pricing practices in the New York milk industry. The ensuing probe, as our newspaper brethren are wont to label such a venture, was a superb example of political demagogy. The accusations were headlined, the denials and refutations were not. The milk companies were accused of conspiring to fix prices and were characterized as growing fat on profits stolen from the mouths of undernourished babes. The Commissioner announced with a flourish that he was turning his records over to the Department of Justice and hinted darkly at a Federal investigation. The Justice people failed to respond to the alarm but that did not matter, the action made the front page. How little the investigation was concerned with the truth came to light when an exhaustive investigation of the profits of six leading milk companies in New York, conducted by Dr. Leland Spencer of Cornell University, showing dealer profits to be one quarter of a cent per quart, was rejected by the Commissioner on the grounds that it was financed by the dealers and, "You don't bite the hand that feeds you". It was even proposed that Dr. Spencer be investigated as a tool of "the milk trust". When, a few months later, the New York State Temporary Commission on Agriculture published a report of its investigations of the New York market and found the average profit to be two tenths of a cent a quart, completely backing up the Spencer report, the political reaction was "whitewash".

This did not help the milk business in New York and it did not help Sheffield's volume. The investigation has since died down in favor of a sortie into the field of theater ticket speculation and bread, but while it was stewing Sheffield, along with the rest of the industry, was doing its best to combat it. The organized consumer groups were hard at work. One of their tricks was to mail out a batch of postal cards to milk companies criticizing their prices in the light of the newspaper headlines. Theoretically they came from individual customers but the similarity of the handwriting cast some doubt on their authenticity.

As 1949 rolled into place the New York market was in a precarious position. The differential between the advertised and unadvertised brands, which amounts to legalized price cut-



The price differential between milk sold in stores and that delivered retail has attracted a steadily wider clientele. Chart shows the evolution of this phase of distribution in the city.

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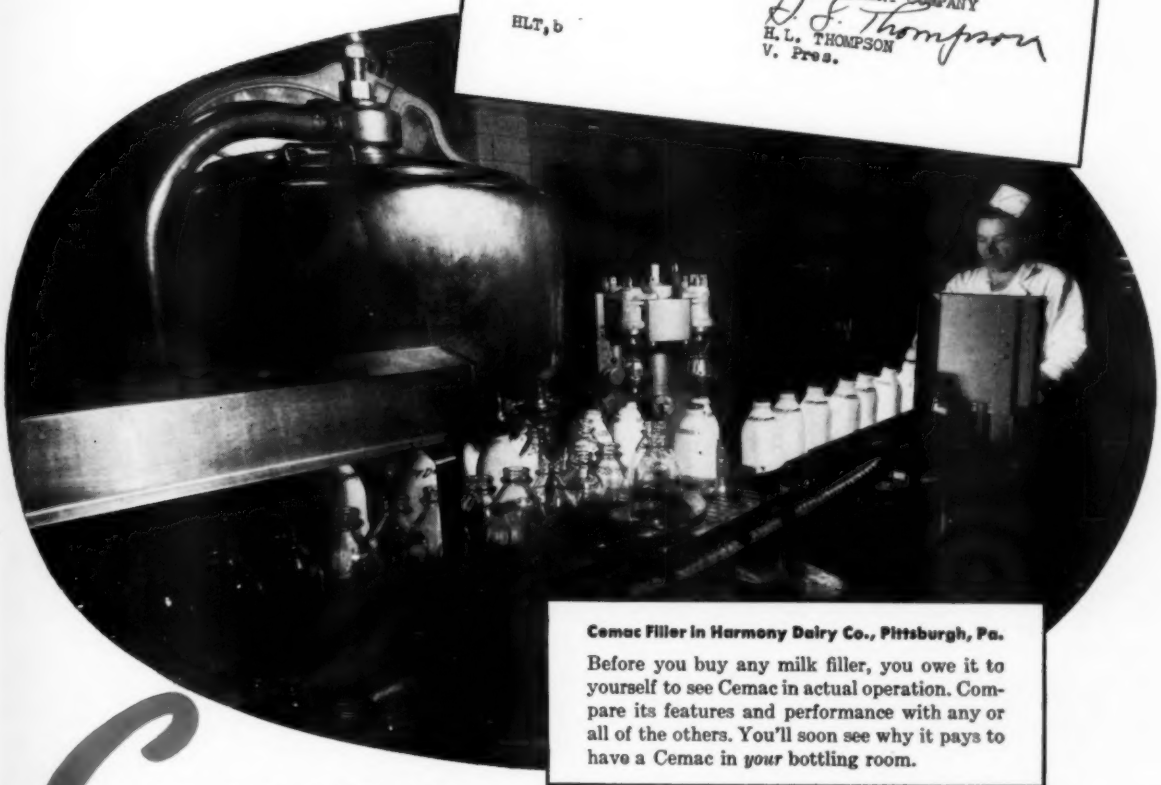

Cemac Filler in Harmony Dairy Co., Pittsburgh, Pa.

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ting, had grown wider. Producer prices held too high too long had attracted an increased volume of milk. At the same time the competition from other foods had cut into consumption. The market was in need of an adjustment of the differential between advertised and unadvertised brands as well as a lower producer price. There was, however, no reason for the adjustment to take the violent form that it did.

Meanwhile upheavals took place at Sheffield. F. J. Andre, President of Sheffield Farms, was replaced by Raymond Wise. Mr. Wise lost little time in trimming away some of the fat that had accumulated at 57th Street. The staff was drastically cut. There still remained, however, that problem of volume.

Price Cut in Jersey

One can only speculate on the conferences and councils that were held by the Sheffield high command as they wrestled with the question. The ultimate result of their thinking is a matter of record. On May 23, 1949 Sheffield cut the price of milk in its New Jersey operation by a full three cents a quart. Seldom had Governor Driscoll's domain seen such a mounting of chargers and sounding of alarums. The pressure was on. After a day or two of frenzied conferences and under the threat of losing their New Jersey license, Sheffield rescinded 2 cents of the price cut and that market returned to an uneasy peace.

Across the Hudson River, however, the pot was getting ready to boil. On October 13 it boiled over when a Sheffield advertisement announcing the price cut appeared in the newspapers. The announcement gave as a reason for the price cuts increased efficiency of plant operation. "We are drastically reducing operating costs," the ad said. Since that time the war has gone on unchecked. All attempts at settlement have failed. Although efforts to find a way out of the morass are still going on there appears to be no immediate prospect of a solution.

A major difficulty in working out any settlement has been the tendency of Sheffield to isolate itself from the trade. The company has withdrawn from the trade associations and has, to all intents and purposes, severed communication lines with the rest of the industry.

The situation is acute. After seven months of steady losses there are dealers who are reported to be approaching the end of their resources. Some of them, seeing the handwriting on the wall, are trying to sell out, with scant success. As one dealer put it, "We don't want to buy another milk business just to increase the amount of money we're already losing." The point at which dealers can no longer pay their bills is not far away. When this point is reached the market administrator can sue in order to collect for the pool but it was discovered long ago that it is impossible to get blood out of a turnip. When this stage is reached the break down of the Federal Order will be inevitable.

Producers are already feeling the hot breath of the war. Premiums have been eliminated and the handling charges that the co-ops formerly received for the operation of their country plants have been drastically reduced. In many cases the co-ops are not able to return the blend price to their patrons. At first producers looked on the war as a handler's device to force prices down. As the war has roared along with no prospect of settlement they have come to realize its true significance. An editorial in the *Producers' Guide*, a milk

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New York is not the only place under the sun to enjoy the stimulus of a good old-fashioned price war. In Milwaukee a red-hot free-for-all has knocked the price down 2 cents below the 49 cents a gallon shown in this picture. This particular war, happily, appears to have burned itself out. It was a rough one while it lasted. Price is up to 50 cents a gallon for milk that is not delivered.

Not a very smart way to run a railroad, if we may say so.

producers' newspaper published each month in Syracuse, New York is indicative of this thinking.

"New York State's milk industry is face to face with a most critical situation.

"This is due to two things, first, the unprecedented flow of milk, and, second, the retail price war being waged in New York City.

"Producers are suffering in that they are finding it increasingly difficult to find a market for their milk at almost any price. Handling charges, in most cases, have gone out the window.

"Handlers are suffering, because in many cases where they have contracts with cooperatives they are forced to buy milk at more than they can sell it. When these contracts expire they, naturally, refuse to renew them at the old figure. Often they refuse to buy at all. When they do agree to take the milk invariably it is at a lower price. . . .

. . . "The outlook is serious.

"It calls for quick and decisive action on the part of the Federal authorities before milk starts running down the ditches and sewers.

"And unless something is done that is exactly what is going to happen."

Just how close the dealers are to the breaking point nobody really knows but the straws in the wind are the size of broomsticks.

There are several ways in which the war might be terminated. The most obvious way is simply for dealers to come to their senses and stop cutting prices. This appears very unlikely largely because the marketing practices, which were to a degree the cause of the trouble, cannot be effectively shackled in the present atmosphere without some sort of an agreement. The agreement would probably be considered price fixing by the anti-trust lawyers. For example, a drop in the producer price took place the first of this month and another is scheduled for June. It would be perfectly feasible to hold retail prices at their present levels and let the drop in producer prices take care of the retail price cuts. Producers understand the situation and would go along with it. Consumers would not be stirred up because there would be no price increase. Yet for the plan to work all parties would have to be aware of the arrangement and respect it. How it could be done without landing everybody in jail for price fixing is the question.

Price Fixing Possibilities

Other avenues of settlement involve governmental intervention. The Commissioner of Agriculture of New York State has authority under the Milk Control Law to prevent unfair and destructive competition by revoking the licenses of dealers who indulge in such practices. So far the Commissioner has not seen fit to exercise this power.

In fairness to the Commissioner the political dynamite of the issue must be emphasized. Any act on his part that prevents a decline in prices to say nothing of bringing about an increase is certain to stir the wrath of strong elements in the government. After all it is the consumers who have the votes.

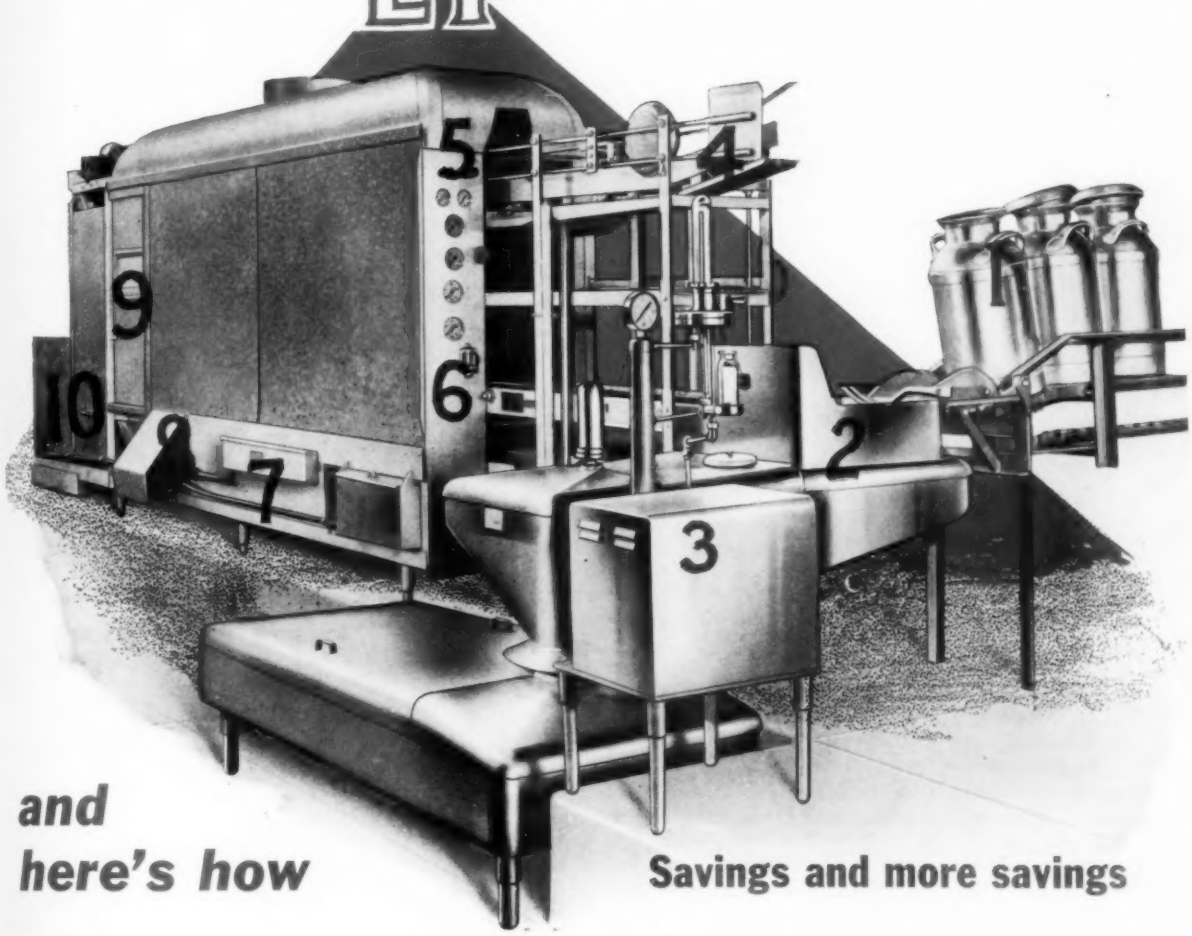
Under the original New York State Milk Control Law the Commissioner could fix resale prices. There is some agitation to have that portion of the law reinstated. There does not appear to be much likelihood that this will be done, however.

Both the Agricultural Marketing Agreement of 1937 and the Federal Trade Commission offer some possible solutions. The Marketing Agreement provides that orders issued by the Secretary of Agriculture may prohibit unfair methods of competition and unfair trade practices. The Federal Trade Commission has the well defined responsibility of maintaining free and fair competition and is given police powers in order to enable it to discharge its duties.

All of these approaches to the problem have some merit. At the same time all of them have such serious defects that as practical solutions they are not very promising. The great difficulty in attempting to enlist the aid of government agencies in settling the dispute is the fact that the government is not particularly interested in bringing about a settlement. The City administration, for example, is delighted with the price war. Milk prices to the consumer have come down, for which the city

(Please turn to Page 54)

PYRAMID PROFITS WITH L-P SAVINGS



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Monopoly In The East

By ROLAND W. BARTLETT
University of Illinois

ROLAND W. BARTLETT

Roland W. Bartlett is Professor of Agricultural Economics at the University of Illinois. A native Vermonter, he came to Illinois by way of Cornell and Pennsylvania State College. At Illinois he has built up a reputation as a sound thinker on milk marketing and labor problems. He has served on numerous committees and boards concerned with milk pricing in the middle west.

In this article he discusses a question that has caused increasing uneasiness in the west. Eight federally regulated markets in the east have monopoly Class I prices. It is not a good situation, Professor Bartlett says. He suggests two alternatives.

How does present per capita consumption of milk compare with minimum amounts recommended for an adequate diet?

Nutritionists recommend one quart of milk a day for children and one pint a day for adults as being necessary for an adequate diet. Based upon distribution of population in 1940, *this would amount to a weighted average of 1.3 pints daily per person or nearly double the amount of milk actually being consumed.*

What effect do prices of milk have upon per capita sales?

Studies of changes in per capita consumption of market milk show *that people drink more milk when it is low-priced than when it is expensive.*

Estimated per capita consumption of milk (and cream) in the United States increased 26 percent from 1940 to 1945.[1] This remarkable increase in sales may be attributed primarily to a sharp increase in consumers' income; low prices to consumers; and shortage of competing products.

Between 1945 and 1949, per capita milk (and cream) sales fell 15 percent. This resulted principally from sharp increases in consumer prices, and an abundance of competing products such as autos, houses, and refrigerators.

A survey of 4,508 retail food stores in New York City in June, 1948 by C. J. Blanford, (Cornell University) showed that:[1]

"Store sales of milk per family were greatest in the low income areas of the city . . . The obvious reason is that families with lower incomes show a tendency to purchase milk at the store to save on price . . .

"In general, the stores serving families in low income areas sold fresh milk at lower prices than those in the medium and high income areas . . .

"It was found also when groups of stores in different areas were compared that sales were greatest in areas where selling prices were lowest . . ."

AMR *Exclusive feature*

For many years New York City had the highest or near to the highest per capita sales of any city in the country. High sales in this city can be attributed, to a considerable degree, to the large volume of high quality milk sold at low prices through stores.

What is the federal order program?

The federal order program operates under the Agricultural Marketing Agreements Act of 1937, specific provisions of which have been upheld by the United States Supreme Court. The principal functions of the order program are: (1) To determine prices to producers and dealers which will insure consumers an adequate supply of milk. Such prices to be based upon facts presented at a public hearing of producers, dealers, and others interested; (2) To check the accuracy of dealers' reports so as to insure equity to farmers and equity to dealers; and (3) To provide information which can be used as a basis of market policies.

What has the federal order program accomplished?

During World War I there was an epidemic of milk strikes throughout the country accompanied by physical violence, dumping of milk, and much bitterness between milk dealers and dairy farmers over the question of pricing milk. In sharp contrast, during and after World War II most markets had no strikes, and for the most part, producers and dealers worked together well. Why this difference?

This difference can be attributed to: First, to the nation wide acceptance

[1] Illinois Farm Economics, May and June, 1948. Pp. 665 to 668.

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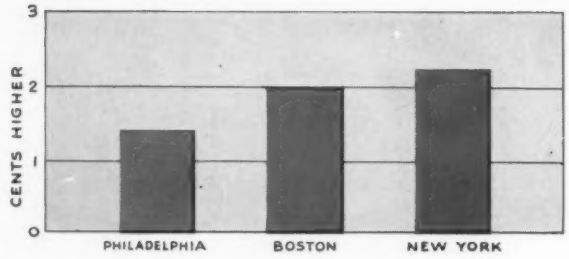
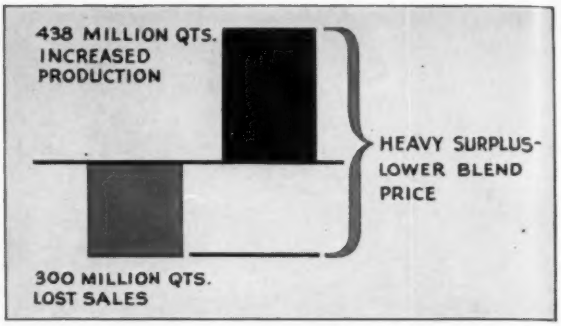


High prices in eastern markets plus increased competition from other foods have resulted in lost markets and increased production. In the three major markets a fluid surplus of ¾ of a billion quarts has developed. This, says Professor Bartlett, is one of the cost of monopoly.



From 1922-1944 the Class I price in three principal eastern markets was distinctly higher than the average price in nine mid-western markets. Not shown on the chart are the 1949 prices which found New York 4.2 cents, Boston 3.8 cents and Philadelphia 2.8 cents over the mid-western average.

of collective bargaining between dairy farmers and milk dealers; second, to the operation of federal milk orders in which milk prices were geared to change automatically with changes in prices of manufactured dairy products; and third, to a 14 year period of rising prices.

Manufactured milk prices have declined since August, 1948. In 27 of the 35 federal order markets, producers have accepted declines in Class I prices in much the same way that dealers accepted price increases during war and post-war years. In 8 federal order markets, producer groups have resisted decreases in Class I prices, and the government has acceded to this by suspending formulas geared to manufacturing prices or accepted some formula whose basic factors, such as department store sales and the wholesale price level, which have little or no relationship to changes in prices of manufactured dairy products.

Are present prices paid for Class I milk in federal order markets in line with manufacturing prices paid for milk?

In 27 of the 35 federal order markets, Class I prices are reasonably in line with prices paid for milk manufactured. Government fixing of Class I prices at a monopoly level in 8 markets including New York, Philadelphia, and Boston, has created a situation which is becoming progressively worse, and is resulting in lower per capita sales of milk, increases in the number of producers, and increasingly large volumes of milk going into manufactured uses in these eastern markets.

In February 1950, the Class I price for 3.5 percent milk in the 27 federal order markets averaged 8.5 cents per quart, or 2.2 cents above the midwestern condensery price of 6.3 cents per quart. In the 8 other federal order markets, the February, 1950 Class I price averaged 11.6, or 5.3 cents per quart above the midwestern condensery price.

From 1929-1944, the Class I price in New York averaged 2.2 cents per quart higher than the Class I price in nine mid-western markets,[1] in Philadelphia 1.4 cents higher, and in Boston 2.0 cents per quart higher.

In 1949, the Class I price in New York averaged 4.2 cents per quart higher than prices in the nine midwestern markets, or 2 cents per quart higher than from 1929 to 1944. Philadelphia's Class I price in 1949 averaged 2.8 cents above the midwestern average, or 1.4 cents per quart higher than from 1929 to 1944. Boston's Class I price in 1949 averaged 3.8 cents higher than the midwestern Class I price, or 1.8 cents higher than from 1929 to 1944.

In what are normally the three shortage months, October, November, and December, total production in 1949 in New York, Philadelphia, and Boston was 79 percent more than the volume of milk used for Class I sales in these markets. For the twelve months in 1949, the total production in these three markets was nearly double (98% more) than the milk used in Class I sales.

What do we mean by a "monopoly" price?

In this discussion it is assumed that monopoly exists only when the Class I price of milk is raised above its real value, or the price it would bring under effective competition.

What affect have monopoly Class I prices in eastern markets had upon per capita sales of milk, and health and diet of consumers in eastern markets?

Exaction of monopoly Class I prices in eastern markets has been one factor causing lower per capita sales of milk. Lower sales, for some 20,000,000 consumers in these areas, have widened still further the gap between actual sales and the 1.3 pints daily recommended by nutritionists as necessary for an adequate diet. Changes in per capita sales of milk in three cities were:[2]

	1940	1945	1948 (Pint daily)	Net decrease 1945 to 1948
New York	.75	.92	.82	—11%
Philadelphia	.70	.80	.73	— 9%
Boston	.72	.93	.80	—14%

In 1949, per capita sales in these three markets averaged slightly less than in 1948.

What effect have monopoly Class I prices in eastern markets had upon milk prices paid to midwestern dairymen?

If per capita sales in New York, Philadelphia, and Boston had been maintained at the 1945 level, sales in these markets in 1949 would have been around 300,000,000 quarts annually higher than they actually were. Monopoly Class I prices in these markets likewise resulted in an increase in production of some 438,000,000 quarts of milk from 1947 to 1949. While not large in the national picture, the combined effect of lower sales, higher production, and loss of eastern markets formerly supplied by

[1] These markets were Chicago, Cleveland, St. Louis, Minneapolis, St. Paul, Kansas City, Louisville, Cincinnati, Davenport, Rock Island, Moline, and Ft. Wayne.

[2] Data from U.S.D.A. Report, October, 1948.

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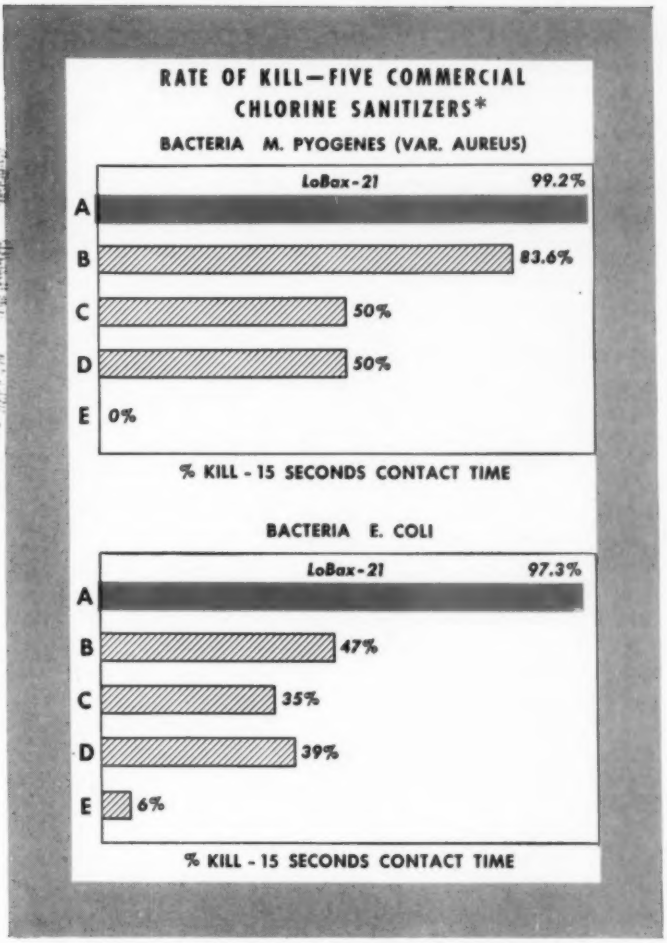

*The killing power of all bactericides depends on solution strength and time of contact. Because most normal strength chlorine rinse solutions (100 ppm) kill quickly, it is necessary to use extremely dilute solutions to "slow up" reactions in order to scientifically compare rates of kill. Minimum time for accurately counting bacteria is 15 seconds.

The above chart shows that LoBax-21 is the fastest killer. During normal rinsing operations, solutions often contact some areas of containers for only a fraction of the desired contact time. Therefore, the best bactericide is the one that kills the fastest—LoBax-21.

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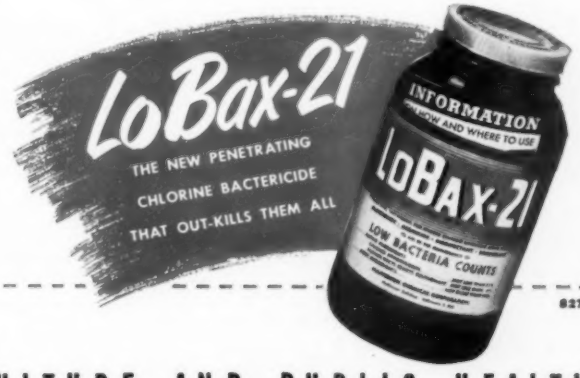
Yes, Mr. Dairy Plant Operator, that's exactly what Mathieson's great new product LoBax-21 can mean to you. When you help your producers to sanitize more effectively with LoBax-21 you're helping yourself to a steadier, more profitable supply of lower count, higher quality milk.

LoBax-21 combines a penetrating wetting agent with the bacteria-killing properties of chlorine—assures quick penetrating action and a fast, complete kill. It is easy, economical and *absolutely safe to use*—kills bacteria faster than any other commercial bactericide—leaves no lime deposits—no off-odors.

Strengthen your position. Boost your volume of higher quality incoming milk. Increase your profits. Stock, use, recommend and sell LoBax-21, the new improved penetrating chlorine bactericide that out-kills them all.

Sample packages designed for can tagging by milk plants, descriptive folders, literature, order cards, follow-up advertising are all available. Write today for full information. Mathieson Chemical Corporation, Mathieson Building, Baltimore 3, Md.



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SERVING INDUSTRY, AGRICULTURE AND PUBLIC HEALTH

midwestern producers, undoubtedly resulted in some lowering of the prices received for manufacturing milk in the mid-west.

Are monopoly prices for Class I milk to the long-time interest of dairy farmers in the areas where such prices are being charged?

Definitely no. Monopoly Class I prices result in loss of sales to consumers, increased production of old producers, the addition of new producers on the market, increasingly heavy surpluses, and lower blend prices to producers. In December, 1949, the New York market had 4,216 more producers than a year earlier and the average daily production per farmer was 31 pounds, or 11 percent, higher than a year earlier. Since New York's per capita sales of milk in 1949 were slightly under those a year earlier, and 11 percent less than in 1945, increased production was forced into low-priced uses and thereby lowered the blend price.

Should dealers' gross handling margins be lowered?

Earlier studies and a study just released at the University of Illinois entitled "Measuring the Efficiency of Milk Plant Operations," indicate that dealers' gross handling margins can be lowered in the majority of markets in the United States as much as two to three cents per quart if all markets were to operate as efficiently as a few markets are now operating. In 1949, the dealers' gross handling margins for receiving, processing, bottling, selling and delivery of milk through stores in Washington, D. C. averaged 5.05 cents per quart, compared with an average of 8.01 cents in 24 large cities.

The Champaign-Urbana, Illinois market is another example. In March, 1948, the price for store sales of milk was reduced from 20 to 18 cents per quart. In 1949 the price was again reduced to 35 cents for two quarts or 17½ cents per quart. Store sales increased rapidly. Sales at one group of 10 stores increased from an average of 20 quarts to 400 quarts daily per store. Per capita sales in the market in 1948 were 4 percent higher, and in 1949, 8 percent higher than in 1947. Price reductions were made possible by large volume operations at the milk plant, large volume per route and large volume per store.

Denver Customers Stay Put

Approximately eight out of ten Denverites who receive delivered milk at their doors have been trading with the same dairy for a year or more, according to a citywide survey recently completed by University of Denver marketing research students.

This staunch buyer loyalty was furthr substantiated by the fact that four out of ten of those polled said they had been taking milk from the same concern for five years or over.

The fresh milk survey was under the direction of John Epperson, an instructor in the Distribution Division of the Denver University college of business administration. The quota-type sample used consisted of 1,347 cases done in Denver proper and excluding suburban areas.

Of all families polled, slightly more than half said they had milk delivered to the home. The remainder either purchased milk from other sources or said they used no milk at all.

More than half of those persons not receiving fresh milk gave as reasons that it was inconvenient to do so, that they didn't use enough to warrant a home delivery, or that it was cheaper to buy milk elsewhere.

Of all persons polled, about half knew the price of a quart of delivered milk. The remainder weren't sure or were unable to say.

The type of milk container preferred varied considerably between delivery and non-delivery buyers. About half of the delivery clients said they preferred to receive their milk in square bottles. The remaining delivery clients were about equally divided in their preferences for round bottles, bottles without preference as to shape, and paper containers.

Non-delivery milk buyers, on the other hand, preferred paper containers by about four in ten. Other non-delivery clients expressed preferences for the other categories in approximately equal proportions.

Nearly half the buyers of delivered milk felt it was quite important for the milk man to arrive at approximately the same time for each delivery. Slightly over half said this was only fairly important or not important at all.

Should the federal government cancel all federal milk orders as recommended by some dairy leaders in Minnesota and Wisconsin?

Definitely no. Since 27 of the 35 federal order markets have Class I prices reasonably in line with prices of manufactured milk, such a policy would be decidedly against the best interests of consumers, producers, and dealers.

What would you recommend as a means of clearing up the present unhealthy condition in the 8 federal order markets which have monopoly Class I prices?

In view of public interest in maintaining and expanding per capita sales of milk, and the good results from the federal order program which have been attained in the 27 markets, I would recommend:

(a) That steps be taken in each of the 8 federal order markets, including New York, Philadelphia, and Boston, to lower their Class I prices so that they are more nearly in line with their historic relationship with manufactured milk; or

(b) That the federal order in each of these 8 markets be cancelled, and that through collective bargaining between farmers and dealers, Class I prices be adjusted to a competitive level with prices paid for manufacturing milk.

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Sterile conditions always prevail in Buflovak Stainless Steel Evaporators. The smooth polished surfaces retard and, in some cases, actually eliminate coating. The frequency of cleaning is greatly reduced and when cleaning becomes necessary, it is extremely easy. All parts of the evaporator are readily accessible. The entire heating surface can be thoroughly cleaned without entering the evaporator. There are no nooks, corners or crevices where material can lodge . . . no coils, no hard-to-get-at places. The entire unit can be sterilized with live steam. For immaculate cleanliness so vital to a quality product . . . for unprecedented production economies . . . for unparalleled evaporating performance — there's only one choice — the Buflovak Stainless Steel Evaporator.

(Left) . . . Shows complete accessibility to the heating surface when hinged cover is swung back. (Right) . . . All heating surfaces can be conveniently cleaned without entering evaporator.

Buflovak EVAPORATORS

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Let's Talk Accounting

By JIM KLUGER

Jim Kluger, specialist in dairy accounting, conducts his exclusive column in the "American Milk Review" each month. If you have an accounting problem or simply an accounting question write to Mr. Kluger at Kapleau, Kluger & Company, 1414 South Penn Square, Philadelphia, Pa. He'll do his best to give you the straight dope.

QUESTION NO. 1 — We are in need of a good receipt book which the driver-salesman shall use when making his collections or cash sales. We're planning to use consecutively numbered double slip books issued in blocks to each salesman who would then be responsible for turning in his copies daily. Our purpose is to try to eliminate cash holdouts. What do you think? Can you tell me where I might obtain samples?

ANSWER NO. 1 — We have no standard form of receipt book, but you can probably obtain samples from your printer or stationer and from the various dairy equipment manufacturers. If I correctly understand your problem, you want a book or form of some kind that will serve to eliminate cash holdouts by drivers. Unfortunately, there is no receipt book to my knowledge that will do the trick if the driver wants to hold out cash, no matter how well it may be designed. The way to solve the problem is either to (1) run a tape of collections as shown by the driver's book daily and compare it with collections turned in or (2) "pull" the book at regular, preferably weekly, intervals. If cash has been held out, the pulled book will show a shortage. Of course, a driver can collect money and not enter it as a credit to a customer or to cash sales. But the shortage will be revealed when your route jumper or foreman makes collections (which must be done at periodic intervals as a check on driver salesmen). Many dairies make a practice of sending out bills to all customers whose accounts show an unpaid balance at month's end. The theory is a customer will call or write in if billed for a payment previously collected by a driver but not entered in his book, and most customers will. Many of the larger dairies have installed a microfilm device, such as Recordak. They photograph all route book sheets each month, mail the route book sheets to customers, retain the microfilm for their internal record. This is an excellent plan as it does away with the tedium of preparing bills, but it is a costly device and can be used economically only where a dairy has a large volume.

Your plan of using consecutively numbered slips will work only if the driver makes out a slip for each collection or cash sale. Your customers presumably would have to cooperate in insisting on a receipt, which most of them won't do. In fact, the simplified route books used by most milk dealers are designed to do away with receipts for customers. Secondly, you will, by insisting on receipts, add an extra bookkeeping chore onto the driver which he won't like and which is not necessary. Thirdly, the driver can easily get around writing up the receipt, or writing it up incorrectly if he wishes. The only real control you can get is by one of or a combination of the means I've outlined above. The control would, of course, have to be predicated on the use of a daily load sheet on which each driver would be charged daily for the full value of his load, and credited with returns, samples, and cash turned in, etc., which I presume you, in common with most milk dealers, already use.

QUESTION NO. 2—I operate a dairy with a volume of about $225,000 per year. Each month I have prepared for me, by my bookkeeper, financial statements which show me my results. I feel, however, that I'm not getting out of them all the information put into them. Can you give me any help on how I can better interpret my statements?

ANSWER NO. 2 — Your question points up a handicap under which many, many people try to operate, that is, properly analyzing and interpreting financial statements. To answer the question in a short column of this type is somewhat like trying to give a one paragraph summary of the Einstein theory, but I'll try to give you something to point at. First, you probably have prepared for you a Balance Sheet, which shows you your financial position at a given date, and a Profit and

(Please turn to Page 51)

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BOTTLE MAKER for the DAIRY INDUSTRY

Ever since Dr. Hervey D. Thatcher invented the first glass milk bottle — 65 years ago — Thatcher has been the dairy industry's "bottle maker". Thatcher Glass has helped to speed the progress of the dairy industry by producing sanitary glass milk bottles that are better designed, stronger and lighter in weight. The glass milk bottle is an important factor for economical distribution of fluid milk . . . bringing pure wholesome milk packaged the way the customer wants it — and at lowest possible cost.

Only because of Thatcher's constant improvements in bottle manufacturing methods has it been possible to supply the exacting milk bottle requirements of the dairy industry. Dr. Thatcher's original hand-blown glass milk bottle weighed about two pounds and cost more than 10c apiece; modern, machine-made streamlined Thatcher Glass milk bottles weigh and cost only half as much as the original glass milk bottle, because of a series of triumphs in bottle-making skill and engineering-design. Whatever type glass container has been needed by the dairy industry, Thatcher Glass has produced it.

The milk bottle to help you keep your dairy ahead is now being made by Thatcher Glass. Ask your Dairy Supply Jobber to furnish you Thatcher milk bottles or write direct.

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Elmira, N. Y.

EDITORIALLY SPEAKING . .

DISASTER IS CONTAGIOUS

THERE IS A children's jingle that describes the frustrations of a man who sat on a fence trying to make a dollar out of fifty cents. Our history, our literature, and our jails are full of people who have attempted to beat the unbeatable. The hard truth is that no matter what devious approaches are employed, no matter how exhaustive the effort at evasion, two and two add up to four, no more, no less.

The infamous Ponzi rode to fame and jail on the theory that two and two made a million or maybe three million. Our Congress has a disturbing tendency to ignore the mathematical knowledge of the centuries as it continues in its fruitless course of trying to make one dollar into a dollar and fifteen cents or perhaps a dollar ninety-eight.

Now we are treated to the not very edifying spectacle of a great industry pursuing the same fallacious course. It is, indeed, an illuminating commentary on five thousand years of supposedly civilized progress, to find that the most widely accepted solution to difficulties in the market place is "cut the price".

Because it is the largest milk market in the world the current price war in New York City must be held up as a model for those who would court disaster.

AT FIRST glance it would appear that the vast Sheffield Farms Company was responsible for the scourge that has struck New York. A more careful study of the situation shows that while Sheffield must shoulder the onus for precipitating the conflict the rest of the industry in the city must share the responsibility for creating the situation that provoked the Sheffield action. Without in any way condoning that action one must, nevertheless, point out that many of independent dealers, through a long series of unethical trade practices, were asking for it.

What is basically involved in this price war is the question of business morality as it relates to tactics. It is a matter of philosophy. The irony of the situation is that many of those who have trumpeted so vigorously the doctrine of free enterprise, who have condemned government regulation of business, are now calling upon the government to rescue them from the predicament into which they have stumbled.

If one is to accept the philosophy of absolute freedom in economic matters then one must accept the price war as a practical part of that philosophy. If one accepts the premise that government should step in and settle the war through regulation then one must accept regulation all along the line. Government regulation cannot be accepted when it is profitable for business to accept it and rejected when it is no longer acting to the complete satisfaction of business interests.

It may be that government intervention in the war is the best answer, although at the present writing the government shows no disposition to take a hand. One cannot, however, look with anything but profound disillusionment on the utter disintegration of whatever tenuous beachheads of business morality that had been established. And yet the only real hope that the milk business in New York has, or any business or any society or the world has, is in the rebirth and growth of that sense of morality.

BECAUSE WE BELIEVE most passionately in the logic of freedom, because we believe that milk dealers in New York, including Sheffield Farms, also believe in freedom the Editors of the "American Milk Review" call upon those men within whose power it is to terminate the price war to do so. We call upon Sheffield farms because it is their action that precipitated the war and it is their action that can end it. We call upon them to take advantage of the opportunity presented by the coming half cent drop in producer prices in June as a means of terminating the struggle. We call upon independent dealers in New York to cease the unfair trade practices that established the pattern for disaster. We call for an adjustment in the differential between advertised and unadvertised brands, for an end to street corner deals and under the counter kick-backs. We call upon Sheffield Farms to end their isolation, to take the great opportunity for leadership that is theirs.

We would point out that suspicion and bitterness are products that no business can afford. We would point out that because there is no trust, no confidence, between the United States and the Union of Soviet Socialist Republics the American taxpayers are digging into their pockets for fourteen billion dollars every year. We would call the attention of New York milk dealers to that peculiar period in American history known as "the era of good feeling." It was a period of confidence and respect for individuals and for government. It is the only period in American history *for the last two hundred years* when the nation enjoyed an extended period of prosperity without the artificial stimulus of a war.

If free men cannot regulate their own affairs so that they can live and prosper together, if, in a society of men educated under the precepts of the Golden Rule, men cannot conduct themselves in a manner that befits those who would hold their heads high then all the greatness of which we boast, all of the mighty instruments of progress that we have fashioned are nothing but golden calves in an age of hyprocrisy.

Two and two always add up to four.

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It takes *Modern* equipment to meet *Modern* competition

If you're hauling milk in cans or tank-on-trailer combinations, chances are that you're pulling hundreds of tons of dead weight every year — a serious expense that can be turned into profitable payloads with Heil trailerized tanks. These lightweight, smooth-skin units have made it possible to haul hundreds of extra payload gallons annually because they require no trailer frame, tie-bands or bolsters — yet their scientific design makes them stronger than a 24-inch I-beam.

Compare the cost of cleaning and maintaining 280 separate milk cans with that of one 2800 gallon Heil transport.

Calculate the added safety to the product provided by a Heil tank that puts only ¼ as much surface in contact with the milk and is so well insulated that loads on the road for as much as 36 hours show less than 2 degrees temperature change — winter and summer.

Yes, check *all* the benefits of hauling with Heil and you'll see why three out of every four Heil tanks are repeat sales to satisfied users — why Heil transports quickly pay for themselves — why Heil tanks consistently bring higher resale prices — why Heil has built more milk transports than all other manufacturers combined.

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HEIL *Trailerized* TANKS Give You These Seven Big Profit-making advantages

1 ***Light but strong.*** Heil scientific "trailerized" design eliminates frame, tie-bands, bolsters — has made it possible to haul hundreds of gallons more payload per trip — yet the tank has the strength of a 24-inch I-beam.

2 ***Patented sloping bottom.*** Tank bottom slopes downward as much as 15 inches from front to rear for quick-easy drainage of product or cleaning water even when tank parks off-level. This lower center of gravity and non-rocking upper 5th wheel greatly reduces side-sway, roll on curves and wind resistance.

3 ***Trouble-free running gear.*** Single and tandem axles have given satisfactory service since 1936 — slipper end springs for automatic load compensation, rubber bushed radius rods.

4 ***Insulation 2½ to 4 inches thick*** limits temperature change to less than 2 degrees even on 36 hour hauls.

5 ***One responsibility.*** Entire unit, from manhole cover to running gear, is designed and engineered by Heil — no divided responsibility.

6 ***Longer life.*** Heil tanks are the last ones in a fleet to be replaced — even then bring higher re-sale prices.

7 ***Wide range of sizes*** meets your exact requirements for maximum legal gallonage. Trailerized tanks from 2000 to 4200 gallons.

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Small and compact but with a lot of zing the Roelof plant is a combination of simplicity and efficiency. Flexibility of operation plus a complete short time high temperature pasteurization set-up make it a gem of small plant design and construction.

ROELOF DAIRY — A Family Affair

By NORMAN MYRICK

Photographs Courtesy Creamery Package Manufacturing Co.

Exclusive feature

There is a nostalgic smell of apples overlaying the usual pleasant odor of milk at Roelof's Dairy in Galesburg, Michigan. When the Roelofs built their new plant last year they tied it in with an apple cold storage, a happy circumstance that has meant extra dollars in the till and an elusive tickling of the palate. One comes away from the Roelof plant, spick and span as a dutch kitchen, with the tantalizing vision of big brown baked apples poking around in light cream.

Galesburg is a small Michigan town about mid-way between Battle Creek and Kalamazoo. A meandering creek flows through the rich farm lands that surround the town. Ancient willows lean outward from the banks and in the summer the catfish, according to local advices, grow as big as first calf heifers. It is in this comfortable little community that the Roelof's, father and sons, have built up a smart family business that boasts a sparkling new plant and a daily volume of three thousand quarts of good solid business.

In spite of the fact that it has attracted visitors from a wide area the plant was not built as a show place. It is, above everything else, a place where good milk is processed efficiently and economically. It was designed with a minimum of fuss and feathers; an afternoon with engineers of the Creamery Package Manufacturing Company yielded the basic layout. Construction was begun the next day. Nevertheless, the plant is a model of the latest thinking in milk plant design and construction.

Good Use of Space

The plant was built with the idea of using a minimum amount of space to its maximum advantage. This has been achieved so well that one of the first impressions one gets is freedom from congestion. Receiving room, unloading room, boiler room, compressors, ice builders, cooler, office, garage, loading platform, processing room are all concentrated in that 66 by 82 feet of building and yet the entire plant fairly shouts of spaciousness. The processing equipment, for example, is concentrated in an area perhaps twelve feet square. Piping is all carried overhead. On the wall close by the filler is a gauge that indicates the volume of milk in the holding tank. No need to run over to the tank itself to get a reading. Equipment is placed in the right spot for efficient operation. Space is limited but so utilized that one is immediately aware of the room available for expansion.

Construction is of brick and glass block on the outside with glazed tile on the inside. The roof is supported by inverted trusses. The trusses carry all of the weight of the roof so that

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The heart of the processing arrangement is the STHT unit shown in picture at left. Cold milk passes through clarifier in the foreground before going to pasteurizer. Note overhead piping, compactness of equipment layout, and simplicity of wall construction. Area on which this equipment stands is flat, the rest of the floor slopes toward the walls.

there are no load bearing partitions. This is an important feature. When, as, and if remodeling time ever comes the matter of moving partitions becomes a relatively simple matter.

The two most striking features of the dairy are the dry floors and the exclusive use of the short time high temperature method of pasteurization. The floors slope away from a small level area, more or less in the center of the processing room. At the base of the walls is a small gutter that leads to a drain located at one corner of the room. The gutter, naturally, slopes toward the drain in order to carry off the water. Water on the floor does not stand but is drained off constantly by virtue of the sloping floors. The result is a remarkably dry and a remarkably clean floor.

Over in one corner of the processing room there is an unused vat pasteurizer. It stands there taking up space "until we can get rid of it," Hut Roelof says. In a way it is symbolical of the changes that have come to the milk business. The heart of the Roelof system is the STHT pasteurizing unit, the vat is a relic of what used to be.

The pasteurizer is engineered to handle raw milk received at 50 degrees F. pasteurize it and cool it to 40 degrees F. at the rate of 3100 pounds an hour. A pasteurizer capable of handling milk at such a rate makes adequate provision for future expansion.

Chick Godde is one of the four plant men whose dry humor and plant know-how help make the processing operation a pleasure to watch. Gutter around the room can be seen at base of wall in lower left hand portion of the picture.

Present volume, which includes 1600 quarts processed for a neighboring dealer who was burned out, runs around 10,000 pounds a day. Peak load has been 15,000 pounds. The Roelofs believe, and their belief is backed up by the opinion of competent engineers, that they could handle up to 20,000 pounds of milk a day with their present equipment.

The Magic Seven

Length of pipe used in the milk lines was an item to which the Roelofs gave more than passing attention. The Kalamazoo County Board of Health looks with disfavor on sanitary piping that is made of lengths greater than seven feet. The Roelofs used lengths of seven feet or less throughout the plant with one exception. There was one ten foot length in the system. When Kalamazoo County health representatives came to visit the plant that one length of pipe was the only thing with which they could find fault. Said John Roelof, "If that's the only thing they can find to complain about let's change it." They did. Today there is not a single length of stainless steel pipe in the plant that exceeds the magic seven feet.

The size of the building, 66 by 82, cause some debate over whether or not to use conveyors. It was decided that a conveyor system was not

These wage slaves are not a very good example of the ills that beset our decadent democracy. Slave second from left is Hut Roelof who is in charge of plant operations.

needed. Crates are moved on dollies. In many respects this is an advantage. The crates are loaded on the dollies at the filler and taken to the cooler where they remain until it is time to load the trucks. They are loaded on the trucks directly from the cooler. The loaded crates are, therefore, handled only twice, once when they are being filled and once when they are loaded into the trucks. They are stacked in the cooler just as they were when they left the filler.

The loading out operation in the morning is done under cover, an arrangement that meets with hearty approval from the routemen. The cooler has a door opening on the processing room and another door opening out on the garage. The routeman backs his truck up to the loading platform and loads without leaving the garage. Regardless of the weather the driver can do this part of work in comfort. On a cold Michigan morning in mid-winter this particular wrinkle is a mighty important factor.

Final judgement of the effectiveness of this plant has been given by no less than four different boards of health. The Roelofs operate under the jurisdiction of the Kalamazoo County Health Board, the Michigan Health Laws, Calhoun County Board of Health, and the Army's Fort Custer Health Requirement. All four organizations have given the plant their blessing, indeed they have recommended it as a model of small dairy plant construction.

A Family Affair

The plant, however, delightful as it is, is only a part of the story. The other part is the Roelof brothers, Hutson and Bert, their Dad, John Roelof, and a quartet of plant men, as gay and competent as one will find east or west of the Mississippi.

John Roelof came to Galesburg forty-six years ago. He bought a farm and went into the business of producing and retailing milk. On the basis of quality products he built up his business. "I never solicited a customer in the fifty years I've been in the milk business," he says. In his mind quality speaks a great deal louder than a jug full of words.

Until last year the business was carried on at the home farm. Plans for a new building had been fomenting for

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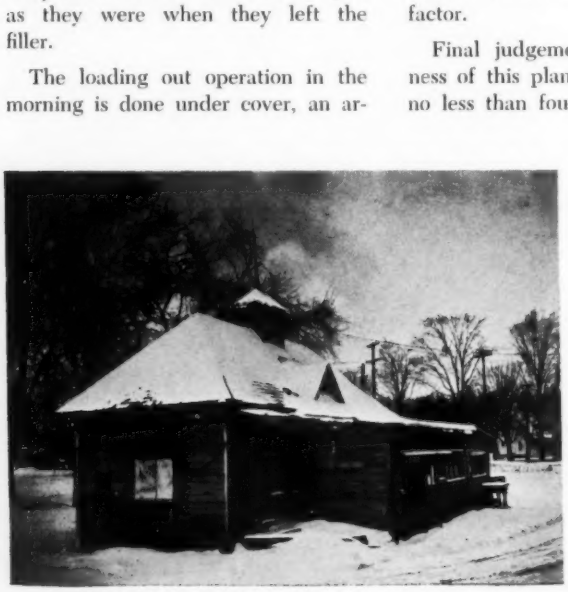
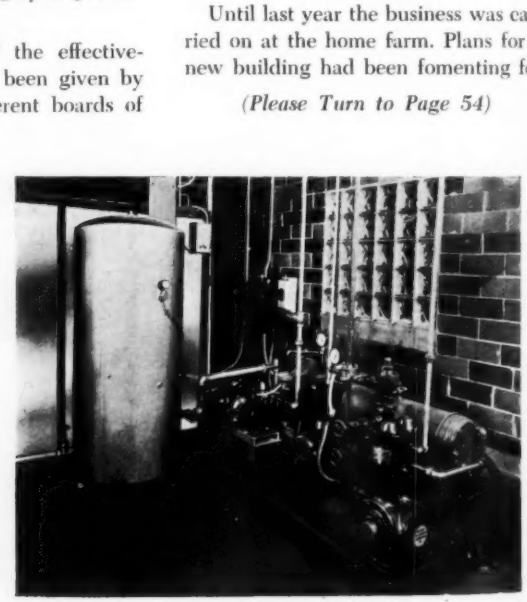


This is the old plant on the Roelof farm. Boarded up windows make the building appear much sadder than it really is. For fifty years John Roelof turned out quality milk in this structure.



The compressor and ice building machine take up a great deal less space than their contribution to the plant entitles them. Ice builder is a great power saver.

XUM

Nation-Wide Contest

. . . sponsored for consumers who buy "SEALON" protected milk

You can't identify these fingerprints
. . . but if you recognize these famous movie eyes
you may win
10 VALUABLE PRIZES TO JUNE CONTEST WINNERS
Sealright SANITARY MILK BOTTLE CLOSURES

The modern housewife loves contests . . . that's why prize offers have skyrocketed sales for so many packaged foods.

In the May 27 issue of COLLIER'S, the first of a series of ads reaching over 3-million consumers will announce Sealright's "Eyedentification" Contest. Readers will learn about the wonderful prizes which can be won by those who identify the eyes of a famous movie star and submit a simple statement with a Sealon Hood from a milk bottle. Actually, this contest is a series of contests, since in addition to the Grand Prize of a Packard, there will be separate sets of prizes for those who send in their entries by June 30th—another set of prizes for those sent in by August 15th, and still another for the September entries. Consumers who enter the contest and miss out the first time, still have another chance to win.

The complete "pouring lip" protection of the sterilized tamper-proof Sealon Closure has always offered strong consumer sales appeal. Now a six months' contest program gives Sealon user dairies the opportunity of cashing in on an outstanding selling promotion, locally.

If you protect your bottle with the Sealon Closure, be sure that the Sealright insignia or this statement, "We use Sealright Sanitary Service for your protection" appears either on the hood or on the undercap, so that your customers can easily identify the cap. Also, write Sealright immediately for the special Contest Kit of tie-in advertising which will make this contest YOUR contest, locally.

If you are not a Sealon user, now is the time to act. Don't miss out on this powerful business-building program.

Sealright

"SEALON" MILK BOTTLE HOODS

I would like to have all the facts on Sealright's 1950 Movie Star "Eyedentification" Contest.

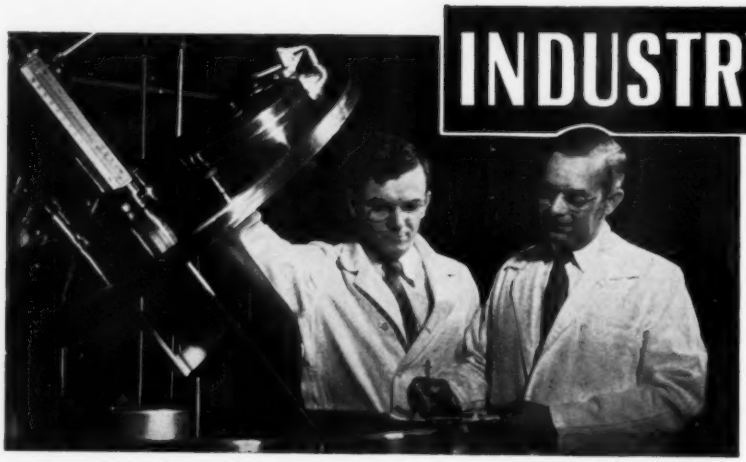
NAME _____

ADDRESS _____

CITY _____ STATE _____

SEALRIGHT CO., INC., Fulton, N. Y.; Kansas City, Kansas; Sealright Pacific Ltd., Los Angeles, Calif.; CANADIAN SEALRIGHT CO., LTD., Peterborough, Ontario, Canada.

INDUSTRY PROBLEMS



Dr. Robert F. Holland and Dr. James C. White, both of the Department of Dairy Industry at Cornell University, conduct their question and answer column each month in the "Review". Questions should be addressed to either Dr. White or Dr. Holland, Department of Dairy Industry, Stocking Hall, Cornell University, Ithaca, N. Y.

Fat Losses in Milk Separation

QUESTION — We are separating about 100 cans of milk daily at present and are having large fat losses. We are careful about flushing our separators and keep line leaks at a minimum but this seems to make no difference. Our milk tests about 3.7 per cent, cream 40 per cent, and skim 0.01 per cent. We have a new Babcock machine and a good operator. Can you give us any hints that will help us to reduce our losses?

A. H., Pennsylvania.

ANSWER – Your trouble is a common one and plant operators spend many hours each year trying to find a remedy. Usually they are unsuccessful because in most cases the losses are not real but are the result of faulty test interpretations. I do not mean by this that your technician is doing poor work but that the methods he has available for testing are not sufficiently accurate to measure the small amounts of fat and fat-like substances in skim milk.

When whole milk is tested by the Babcock method, some of the fat and fat-like substances fail to rise into the fat column. This is compensated in two ways: first, a small amount of water is included in the fat column; and second, when reading the test, both the upper and lower menisci are included. This system of reading has been adopted because the results obtained are in reasonably close agreement with ether extraction tests, such as the Mojonnier. Thus, in buying milk on the Babcock test, the dealer pays for everything that is included as fat by ether extraction although some of this material fails to appear in the Babcock fat column.

Babcock cream tests are also based on ether extraction methods. To obtain agreement in this case, the upper meniscus is flattened but the lower one and a trace of moisture are included in the reading.

When skim milk is tested, however, the inclusion of the menisci and the small amount of water present in the fat do not compensate for the residual fatty material left in the bottle. As a result, the Babcock test of skim under efficient separating conditions will show 0.005 per cent to 0.01 per cent fat. The Mojonnier test on this same skim will generally show 0.06 per cent to 0.1 per cent. This ether soluble material is made up of the small fat globules of the milk plus 0.015 to 0.02 per cent phospholipids plus smaller amounts of sterols.

Failure to appreciate the above facts results in much costly search for mechanical fat losses. No amount of care can eliminate this assumed loss because it does not occur mechanically. Therefore do not depend on the Babcock skim test in computing fat losses. It is worthless except as a rough indication of the efficiency of skimming. Under good operating conditions the Babcock test will show from 0.005 to 0.015 per cent fat. Tests of 0.02 per cent or above indicate trouble and skimming conditions should be checked.

Because of the small amount of fat indicated by the Babcock skim test, some operators tend to neglect this fat entirely. This is a bad mistake as the quantity lost actually amounts to 1.5 to 2.5 per cent of the weight of the fat in the milk. Under poor skimming conditions it is much higher.

I trust that this may give you the clue to your fat loss troubles that you request.

Increasing Your Business

QUESTION — We are selling daily about 1,500 quarts of milk of which about 150 quarts are homogenized. There seems to be an increase in demand for homogenized milk and our whole business is growing. We must rebuild our plant and desire to increase our business still further. Can you give us any tips on how to increase our sales?

J. S. B., New York.

ANSWER – The economists tell us that we have nearly saturated the market for milk as consumed by children and invalids. It seems to us that any large increase in milk consumption must be in the adult group, where

XUM

Profit Tips
ON PLANT OPERATIONS

GIRTON
Dairy Equipment

FAST COOLING

MEANS

★ Better Flavored Products

For Increased Production

USE THE
GIRTON PRESSURE WALL PROCESSOR

The Efficient Processing Vat

It heats rapidly and cools faster . . . . . to produce better products at lower costs.

GIRTON MANUFACTURING COMPANY
• MILLVILLE, PA

WRITE FOR FULL INFORMATION

MODERN DAIRY EQUIPMENT OF ADVANCE DESIGN

XUM

30 to 40 per cent never consume milk in beverage form.

In our experience, the only plants which have made amazing increases in business have done so on a quality program where the flavor was the primary selling point.

Knowing your particular market, there is every reason to believe that you can expect to double your business in 5 years if you have a consistently excellent product.

I can cite one plant where the business 3 years ago was less than 400 quarts a day. At the present time sales total 1,200 quarts a day. This has been done by an aggressive selling program, with an outstanding product. The owner has educated his producers to keep feed flavors at a minimum. He has removed every piece of copper-bearing metal from contact with milk to control oxidized flavors and he has not had, in those 3 years, a single pasteurization chart which showed underheating, underholding, overheating, discontinuity of holding, or holding longer than 32 minutes. In that time he has had no faulty phosphatase tests and coli has never appeared in any product of his dairy.

In a highly competitive market, without price-cutting, he has trebled his business by scrupulous attention to detail, especially where it affects flavor and quality. There is no reason why you cannot do the same.

Consolidation Is The Trend In Denmark

By FRANK MEISSNER

Iowa State College

RECENTLY I CAME to this country from Denmark. I was surprised how similar the dairy problems of the two nations actually are.

Also in Denmark the topical issue is "Consolidation". The Danes are of course interested to get their creameries (they call them dairies) operated as efficiently as possible. They realize that costs have to be kept down if they intend to retain reasonable profits and continue to supply the British market.

The same problem has been mentioned to me by almost every creamery or dairy operator in the Middle West when I visited with the different plants. "What do the Danes do about their costs?" is a very frequent question.

A strong trend toward combination of small dairies on one hand and specialization of production on the other are the Danish answers. The total number of cooperative dairies was increasing in Denmark until 1935. In that year they were 1,404 of them. Since then there was a steady decline. Last year only 1,340 were left.

What effect has this trend had? Here is an example: There were 70 co-op milk plants operating in a certain area. A consolidation project was devised for them. According to this new arrangement only 34 creameries would be left yet the average amount of whole milk would be increased from 45 million pounds to 94 million pounds a year. Larger output per man does to a certain limit mean lower costs. Figured at 1945 butter prices of 50 cents per pound, this would mean a yearly total saving of about 200,000 dollars. In other words, 0.7 cents would be saved on each pound of milk treated in the plants. There was considerable discussion on the subject recently following a suggestion of the Danish Government to finance this reorganization by money received through Marshall Plan aid. Danish farmers, however, are also against excessive government intervention and turned this offer down. They intend to finance the project privately. The arguments pro and con of Government sponsorship certainly were very much alike the present discussions in the United States.

It takes about 22 pounds whole milk to make a pound of butter. This means the co-op would get patrons 15 cents more for each pound of butter sold. The present saving with the devaluated currency would be even larger as prices are at least 60 per cent up since 1945.

There is one other point to remember. Reorganization doesn't always mean larger units. It can mean specialization, too.

The January issue of the Danish Manufacturers Monthly, "Sammenslutningen", tells us of a case where three plants were reorganized. Each plant now specializes in a certain product. Before this happened each plant put out several different products.

One plant was engaged principally in the manufacture of ice cream, but made some cheese as well.

They were planning on building a new cheese room and expand their cheese business. Another plant was located 3 miles from the first. It had quite a cheese factory—but it also sold bottled milk during the summer at a nearby sea resort. The third dairy was 3 miles from the first two. It made a bit of cheese but had extremely poor cheese storage facilities. The churning hall and cold storage, however, were well equipped for butter production.

These three co-ops worked out a joint management. The first plant bought proper bottling equipment. It sells milk over the whole marketing area of

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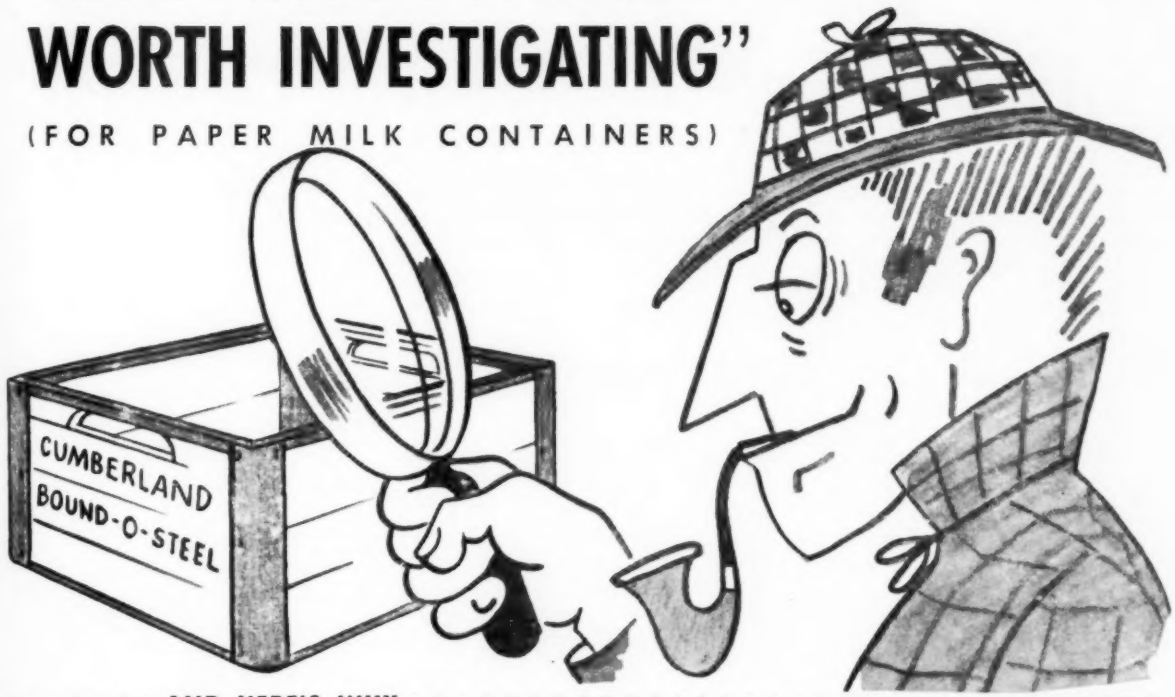
"HMM—HERE'S A CASE WORTH INVESTIGATING"

(FOR PAPER MILK CONTAINERS)



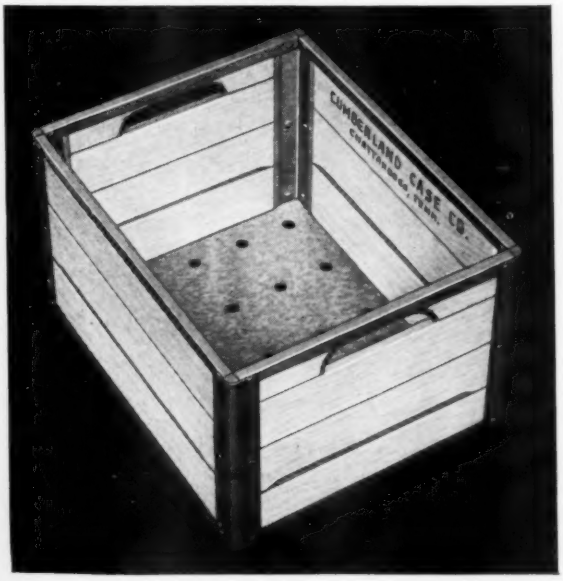
AND HERE'S WHY

SMOOTH • Improved design eliminates any possibility of scratching.

SAG-PROOF • All steel, double reinforced bottom is remarkably resistant to distortion yet absorbs shock.

NEST SECURELY • Instant four-side nesting with metal to metal contact top and bottom facilitates stacking.

STURDY • Selected, low thermal conductivity hardwood and heavy gage galvanized sheet steel are used in an original design. (Patent applied for.)



MORE ECONOMICAL • Satisfied bottlers who deliver milk in paper containers have established Cumberland BOUND-O-STEEL as the case that reduces cost of distribution. You can't afford not to have Cumberland BOUND-O-STEEL cases.

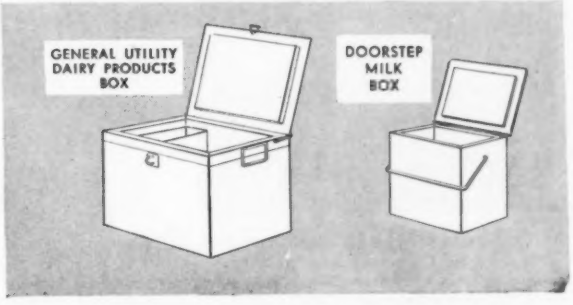
CAPACITIES

12 Quart (18 Pint or 24 Half Pint) Containers
16 Quart (24 Pint or 32 Half Pint) Containers
20 Quart (30 Pint or 40 Half Pint) Containers
24 Quart (36 Pint or 48 Half Pint) Containers

**There is a Cumberland Case for every requirement. See your jobber or write us direct for descriptive literature.*

CUMBERLAND CASE COMPANY

CHATTANOOGA, TENNESSEE



Special Equipment for

Effective and Economical Cleaning

By JOHN R. PERRY
National Dairy Products Company, Inc.

Exclusive feature

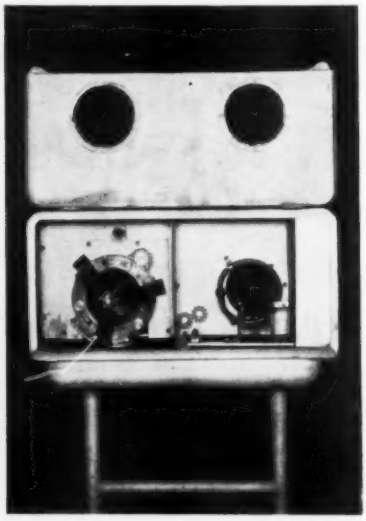
It is highly important that sanitary pipe be properly cleaned, particularly in a processing plant. All of the fluid product passes through sanitary pipe and through some of it after having been carefully processed on its way to the final packages. And yet sometimes sanitary pipe is cleaned by primitive methods with crude equipment which, despite extreme conscientiousness and industry, do not satisfactorily clean it. It is very difficult to clean the inside of sanitary pipe satisfactorily with a manually operated brush dipped in cleaning solution because not enough friction is developed and the brush does not scrub in a bath of cleaning solution. Rinsing by placing the sanitary pipe in a vat of water floats the butterfat to the top of the water so that when the sanitary pipe is removed some of the butterfat is redeposited on it and even if the rinse water is constantly replaced and the top layer allowed to float off through a stand pipe, this redepositing of butterfat is not completely obviated. Moreover, cleaning saniatry pipe in this manner is laborious, time-consuming and expensive, and in addition damages the sanitary pipe.

To make possible satisfactory, efficient and economical cleaning of sanitary pipe, a Sanitary Pipe Cleaner was developed. This device, by mechanical means, thoroughly scrubs and rinses both the inside and outside of the sanitary pipe and does this rapidly so that a very large quantity of sanitary pipe can be cleaned with it during the usual cleaning period.

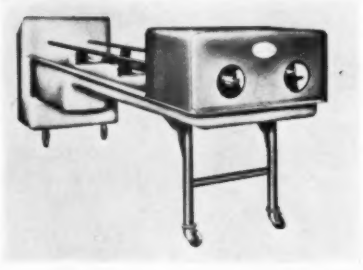
The Sanitary Pipe Cleaner is comprised of two parts, one alongside of the other. One part has the brushes for scrubbing and the other part the nozzles which deliver the sprays of rinse water.

The part where the scrubbing is done consists of a scrubbing assembly at the working end. This scrubbing assembly is made up of three "Outside" Brushes which are attached to a rotating cylinder, the bristles of which are at right angles to the sanitary pipe so that they scrub with their ends, and a specially designed "Inside" Brush which rotates in the opposite direction to the "Outside" Brushes. The "Inside" Brush is attached to a long shaft housed in a tube.

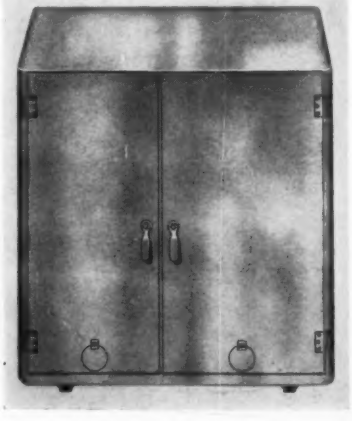
The brush assembly is located in a front compartment and over the upper end of a trough which slopes to a cleaning solution tank in the rear.



The "outside" brush assembly and the "inside" brush assembly can be seen in this end view. Valves control flow of solution and rinse water.



Brushes and nozzles are used in the Sanitary Pipe Cleaner to do an effective cleaning job. Brushes scrub both inside and outside of pipe.



Rear view of the Sanitary Pipe Cleaner shows back cabinet. Covered openings at bottom are for hose and cable. Doors allow access to interior.

XUM

Back of the brush assembly, in the front compartment, are the body of the cylinder to which the "Outside" Brushes are attached and the motor which revolves the cylinder.

Just back of the cleaning solution tank and the end of the rinsing trough, is a compartment which has in it the motor which revolves the shaft to which the "Inside" Brush is attached, a pump which sends the cleaning solution through the tube to the "Inside" Brush and through a pipe to the "Outside" Brushes, the heating elements which keep the cleaning solution at the proper temperature and the solenoid valve and parts through which the rinse water passes on its way to the rinse nozzles.

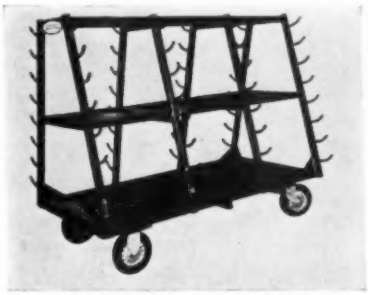
When sanitary pipe is being scrubbed the excess cleaning solution drops onto the trough and returns to the cleaning solution tank. The pipe which picks up the cleaning solution, and through which the cleaning solution passes to the pump, extends above the bottom of the tank so that its end is above any sludge and below any scum which may accumulate.

The rinsing is done with tempered water in a compartment at the front end of the Sanitary Pipe Cleaner. In this compartment is an "Outside" Rinse Assembly and an "Inside" Rinse Head, together with a Roller Trigger Assembly which connects with a microswitch. Rinse water flows only when a length of sanitary pipe is run through the rinse assembly and depresses the Roller Trigger Assembly. So, fully effective rinsing is accomplished with a minimum quantity of heated water. The whole rinse assembly is above a long trough which slopes toward the rear cabinet. Near the back end of the trough is an open drain through which the rinse water passes. The rinse water is used only once.

On the insides of the back doors are racks on which the rinse water hose and the electric cable are coiled. The hose and the electric cable pass through small openings covered with flaps which are located in the doors just below the racks.

When the Sanitary Pipe Cleaner is used, the sanitary pipe is brought up, preferably on a Sanitary Pipe Truck, and each length is run through the brush assembly where it is scrubbed, retracted, run through the rinse assembly, retracted and replaced on the Sanitary Pipe Truck. It is unnecessary to "soak" the sanitary pipe in the cleaning solution before scrubbing except, perhaps, in rare instances. However, the unit is so constructed that the sanitary pipe can be soaked if desired. Since "dumping" sanitary pipe into a vat of cleaning solution mars and scratches it and injures the ferrules, thus causing leaks, it is advantageous not to soak it.

In order to insure truly satisfactory scrubbing of sanitary pipe special brushes were designed which would accomplish this. There are two kinds of brushes used on the Sanitary Pipe Cleaner, the special Outside Brush for Sanitary Pipe and the special Inside Brush for Sanitary Pipe. Nylon bristles of the proper length and diameter are used in these brushes.



Sanitary Pipe Truck makes extensive use of neoprene to prevent pipes from being marred. Large casters are placed inboard in order to prevent their being injured.

There are three special outside brushes on each Sanitary Pipe Cleaner, all three being alike. These brushes are refillable and so designed that scrubbing is done with the ends of the bristles – an important feature – and also are so designed that the bristles can move in all directions. Although the bristles are stiff enough to really scrub it is possible for an operator to move his hand among them without injury while the brushes are revolving.

The special Inside Brush is easily refillable. The diameter of the brush is greater than that of the inside of the sanitary pipe so that as the brush enters the sanitary pipe the bristles scrub the ends of the ferrules and then flex to scrub the inside of the sanitary pipe with their ends. The brush is so constructed that the cleaning solution readily passes among the bristles so that scrubbing is done in a bath of cleaning solution. This brush has an exceptionally long life. It can be satisfactorily used on conventional Sanitary Pipe Washers which carry cleaning solution to the brush. It is necessary to have a separate brush for each size sanitary pipe which is cleaned.

The Sanitary Pipe Cleaner scrubs and rinses more completely and much faster than any other device known to the writer and is so simple to operate as to be almost foolproof. It has been designed and constructed not only to do an excellent job of cleaning but also for dependability, long life and a minimum of maintenance. It runs quietly and is decidedly economical from an operational standpoint. Although all parts of it are readily and quickly accessible, it is attractive in appearance. The Sanitary Pipe Cleaner is a heavy duty, large capacity unit adaptable for the largest plants and yet practical for plants of moderate size.

Sanitary Pipe Truck

In a number of plants it has been found desirable to transport sanitary pipe by means of a special vehicle in order to save time and to protect the sanitary pipe from damage. It has also been found convenient in some instances to use the transportation vehicle as a sanitary pipe rack.

A vehicle for transporting and racking the sanitary pipe was designed which not only permits the satisfactory moving of the sanitary pipe but which also protects it from marring or damaging of its ferrules as it is being moved. This vehicle can be had with shelves which may be used for carrying sanitary fittings and small parts. The vehicle has been designated as a Sanitary Pipe Truck.

The Sanitary Pipe Truck is comprised of three rectangles placed horizontally above each other and equal distances apart. The lowest one is widest and the top one narrowest. To these rectangular frames are attached upright members, four on each side.

Buy U. S. Bonds

The Sanitary Pipe Cleanerette is simply a small pipe cleaner. Biggest difference between the large and the small is in the amount of manual effort required and the capacity.

In the Sanitary Fittings Cleaner the two brushes rotate in opposite directions. Cleaning solution is applied through perforated pipe. Flow of rinse water is controlled by the foot pedal.

The upright members have prongs onto which lengths of sanitary pipe are placed. The distances between the upright members are such that even short pieces of sanitary pipe, only slightly longer than 1½ feet, can be supported on the prongs. Four casters are attached to two cross members of the lowest rectangular frame. The casters are large to permit easy moving of the unit and are located in from the sides and ends so that they are out of the way and protected.

The rectangular frames and the upright members are made of square stock with rounded edges for strength, appearance and sanitary reasons.

The shelves of the Sanitary Pipe Truck are removable so that they and the frame of the unit can be easily and readily cleaned. The shelves are corrugated to insure good drainage of any sanitary fittings and small parts placed upon them. The shelves fit into the rectangular frames. Both stainless steel and Neoprene coated steel are used in making the Sanitary Pipe Truck. Where stainless steel is used, only the faces of the upright members, the prongs, and the tops of the shelves are coated with Neoprene. While the unit made of stainless steel is possibly of more pleasing appearance, the Neoprene coated unit is attractive and will not injure equipment into which it may bump. Either is long-lived and requires a minimum of maintenance.

The prongs on the Sanitary Pipe Truck are so designed that only one length of sanitary pipe should be laid across a set of them. This feature protects the sanitary pipe from damage, since the sanitary pipe strikes and rests upon the resilient but tough Neoprene. Similarly, any sanitary fittings and small parts should be spaced on the shelves so that they strike and rest upon only Neoprene.

Sanitary Pipe Cleanerette

The Sanitary Pipe Cleanerette, or little Sanitary Pipe Cleaner, was designed and developed for use where the quantity of sanitary pipe does not perhaps warrant installing a Sanitary Pipe Cleaner which will quickly and with a minimum of manual effort completely clean a very large quantity of sanitary pipe. The Sanitary Pipe Cleanerette may be utilized with good results in processing plants of small or moderate volume, in receiving stations and in departments of processing plants which do not have large quantities of sanitary pipe.

The Sanitary Pipe Cleanerette in its present form is a refinement of the original working model from which was also developed the Sanitary Pipe Cleaner. The Sanitary Pipe Cleaner was developed to present form before the Sanitary Pipe Cleanerette because it was desired to first make available a device which would completely clean sanitary pipe as simply, rapidly, economically and as nearly automatically as possible. However, the need for a satisfactory yet lower priced unit for cleaning a small or moderately large quantity of sanitary pipe was recognized from the start so the original working model was refined in form to the present Sanitary Pipe Cleanerettee.

Like the Sanitary Pipe Cleaner, the Sanitary Pipe Cleanerette is comprised of two parts, a scrubbing element and a rinsing element. However, the Sanitary Pipe Cleanerette is of much simpler design and requires considerably more manual effort than the Sanitary Pipe Cleaner. Also the Sanitary Pipe Cleanerette does not have nearly as much capacity as the Sanitary Pipe Cleanerette.

The scrubbing element of the Sanitary Pipe Cleanerette consists of a long vat over which is a shaft within a tube assembly with a brush for scrubbing the inside of sanitary pipe attached to the free end of the shaft. This unit sometimes has a specially designed stationary brush assembly which will lightly scrub the outside of sanitary pipe as the latter is run through it while at the same time it is being run over the revolving brush attached to the end of the shaft. The brush for scrubbing the outside of sanitary pipe will not, of course, scrub anywhere near as thoroughly as the Outside Brush Assembly on the Sanitary Pipe Cleaner but will, nevertheless, reduce the need for manually scrubbing the outside of the sanitary pipe. Cleaning solution is fed to the brush which scrubs the inside of the sanitary pipe through the tube surrounding the shaft.

The rinsing element consists of a long rinse trough over which there is a tube with a special rinse cap on its free end. Surrounding the rinse cap is a rinse ring which delivers sprays of Tempered Water for rinsing the outside of the sanitary pipe. This unit may be obtained with a Roller Trigger Assembly, located ahead of the rinsing assembly, which allows

XUM

A Good Business Policy...

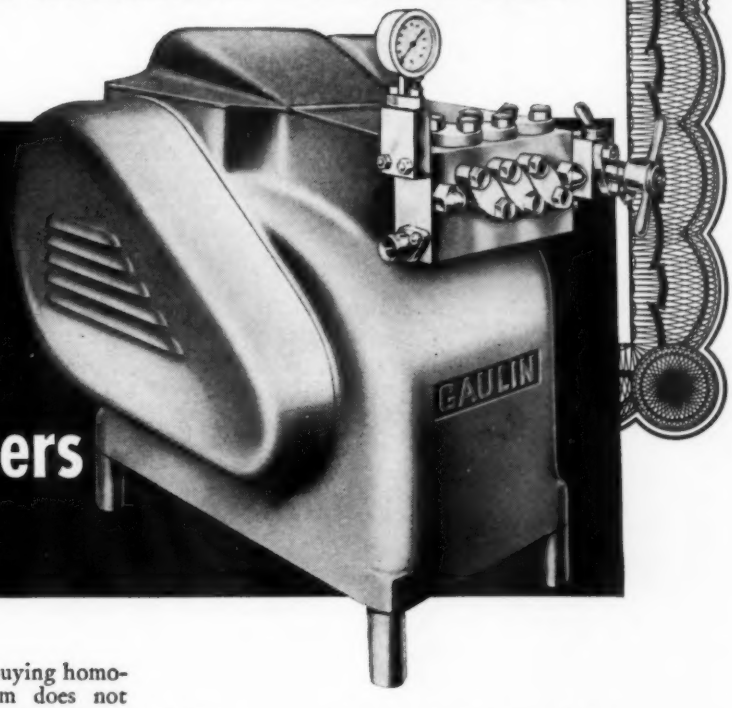
is to maintain "Good Taste"

with

GAULIN

Two-Stage

Homogenizers



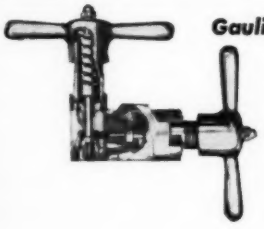
More and more consumers are buying homogenized milk because the cream does not separate from the milk . . . it has greater taste appeal . . . and has better keeping qualities.

You can profit by getting into this fast growing market with a Gaulin Homogenizer. It will help you attract new customers and build better relations with your old ones.

Gaulin Homogenizers, the homogenizers with the original two-stage valve, give you positive product control. They enable you to maintain the same uniform "Good-Taste" day in, day out.

Gaulin Homogenizers are built to give dependable performance years on end. Their modern design and clean appearance meet the layout requirements of any dairy plant. Extremely sanitary, they are easy to keep clean. That's why you'll find more Gaulin Homogenizers used in plants than all others combined.

See your jobber or write for Bulletin which describes the Gaulin two-stage Homogenizer in detail.



Gaulin — Originator of the Two-Stage Valve Assembly

The Gaulin two-stage Valve, one of the many Gaulin features, provides two separate homogenization processes which break up the particles so finely that all clumping is eliminated. The result is a completely homogenized product which has uniform and constant quality.

Gaulin
TRADE MARK

MANTON GAULIN

MANUFACTURING COMPANY, INC.

49 GARDEN STREET

EVERETT 49, MASSACHUSETTS

the rinse water to flow only when the sanitary pipe is being run through the rinsing assembly.

The working end of the unit is covered with an open hood and the mechanical parts of the unit are housed in a cabinet in the rear from which extends the brush shaft and tube assembly and the rinsing tube. Instead of having a cleaning solution tank in the rear of the scrubbing element with a trough sloping toward it, as has the Sanitary Pipe Cleaner, this unit has the conventional long vat to permit "soaking" several lengths of sanitary pipe at the same time.

When the Sanitary Pipe Cleanerette is used the sanitary pipe should be brought up to it, preferably on a Sanitary Pipe Truck, and each length run through the brushes. Then each length of sanitary pipe should be run through the rinsing sprays after which it may be replaced upon the Sanitary Pipe Truck. Any lengths of sanitary pipe which are heavily soiled on the outside should be placed in the vat for a time and possibly hand scrubbed before running them through the brushes.

Although the Sanitary Pipe Cleanerette is well designed and constructed, has a long life and requires only reasonable maintenance it is not intended for the heavy duty for which the Sanitary Pipe Cleaner is adapted. Nevertheless, it is possible to satisfactorily clean sanitary pipe with it. Because of the extra handling it receives and the desirability of placing lengths of it which are heavily soiled on the outside in the vat, the sanitary pipe is not fully protected from scratching and marring and from damaging of its ferrules as it is where the Sanitary Pipe Cleaner is used.

Sanitary Fittings Cleaner

Every processing plant has a considerable number of sanitary fittings and small parts. The scrubbing and rinsing of these as generally done is a tedious and time-consuming task, requiring painstaking thoroughness if they are to be satisfactorily cleaned.

To make the cleaning of sanitary fittings and small parts a satisfactory, efficient and economical operation, and to minimize the marring of them and damaging of their ferrules, a Sanitary Fittings Cleaner was developed.

In the Sanitary Fittings Buggy as in the Pipe Truck neoprene is used to prevent metal from coming in contact with metal. Removable trays were included in the design of the "buggy" for handling small parts. Heavier pieces of equipment are loaded directly on the shelves, smaller parts are loaded in the trays.

The body of the Sanitary Fittings Cleaner comprises a double compartment with a drain board on each end. A back extends the full length of the unit. Just behind and under the two compartments is a cabinet which opens from the rear. Two brushes extend forward, in the same horizontal plane just above the compartment on the left. Above the line where the bristles of these two brushes mesh, a pipe with perforations in its underside extends forward from the back. As the two brushes rotate, the one on the right counterclockwise and the one on the left clockwise, cleaning solution drops onto them from the perforated pipe mentioned. In the back cabinet, just behind the two compartments, is a motor which moves the gear assembly which rotates the brushes and also the pump which picks up the cleaning solution from about two inches above the bottom of the compartment over which the brushes are located. An electric heating element extends from the back cabinet into the compartment containing the cleaning solution and automatically maintains the latter at a temperature of 115°F.

Over the compartment on the right, a pipe extends out from the back and down over the compartment. This pipe has a special rinse nozzle on its end. The flow of the rinse water, maintained at 115°F. and about 20 psi, is controlled by a foot pedal just beneath the compartment on the right. This foot pedal actuates a quick action valve located in the back cabinet. The compartment on the right has an open drain so that the rinse water, which is used only once, flows away immediately after it has rinsed each sanitary fitting or small part.

When the Sanitary Fittings Cleaner is used, the sanitary fittings and small parts are brought up to it, preferably on a Sanitary Fittings Buggy, and deposited on the drain board on the left. Then they are picked up one by one and scrubbed. A sanitary tee, for instance, is run over the brush on the right and turned both ways against the other brush so that the tee is cleaned inside and outside at the same time. A body of a large sanitary valve may be run over both brushes and then its outside held against the brushes. Immediately after the scrubbing is completed, each sanitary fitting is held under the rinse nozzle and thoroughly rinsed. Then it is deposited on the drainboard on the right. Afterward it may be replaced on the Sanitary Fittings Buggy and transferred to wherever it is to be used.

A Special Brush for Sanitary Fittings has been designed for use with this unit. It was found that the conventional "bottle brush", and brushes like it, were not satisfactory for use with this unit. Among other things, the bristles are too closely packed and the wooden shaft breaks after a small amount of use and generally while sanitary fittings are being cleaned. The Special Brush for Sanitary Fittings has a metal shaft and Nylon bristles of the proper size

(Please Turn to Page 56)

XUM

EVERYBODY!
EVERYWHERE!
SET-ASIDE FOR ADA IN JUNE
Bang! Bang! Bang! ADVERTISING . . . MERCHANDISING . . . and SALESMANSHIP are the mighty ADA forces that are the industry's "Key to Sales." They are being applied this year as never before to maintain and develop markets for MILK, CREAM, BUTTER, CHEESE, ICE CREAM, EVAPORATED and DRY MILK . . . all dairy products. The industry, united and determined, "provides the fuel" for these explosive, sales-making powers during the ADA Set-Aside in June The industry's goal . . . 100 percent Set-Asides! Do your part!
DO IT THIS WAY
(1) Put up the "Act with ADA in June" Campaign posters in your plant. (2) Before June Set-Aside Period, send ADA Folders to all your patrons. (3) Make the ADA Advertising Set-Aside on all patrons through 30 days in June.
AMERICAN DAIRY ASSOCIATION
20 N. Wacker Drive Bldg., Chicago 6, Illinois • "Voice of the Dairy Farmer"
ADA SELLS FOR YOU!

Buildings & Budgets

By FRED DEGENHARDT

IF YOUR PROPOSED new building estimate is larger than your budget allowance you may be able to profit by the way in which planning and the selection of equipment played an important part in keeping the size of a building to a minimum. Realizing the space-saving features of a recently developed can washer, the new Receiving Depot of the Chateaugay Co-operative Marketing Association was planned around two 14 can per minute units.

The washers are similar, in general, to the straight track washers except that the can track is "bent" in a 180 degree curve. While the width of the machine is doubled the length is reduced to approximately one half that of a straight track machine. The double width of the machine resulted in utilizing space in the Chateaugay plan which would have been wasted because the area between the wall and washer is greater than required for access. The shorter length, however, resulted in a saving of approximately 720 square feet of building area. Multiply that by the estimated square foot cost of a building of this type in your own locality and whether the cost unit is 12-15-18 or 20 dollars, the saving is substantial.

Fred Degenhardt is a specialist in the design, construction, and maintenance of dairy plants. Seven years with the Engineering and Planning Department of Bordens plus four years with Sheffield Farms have given his twenty-one years as an architect a decided dairy flavor. Last July he opened his own office at 31 Union Square West in New York where he concentrates on but does not limit himself to dairy work. His column will appear in the American Milk Review every other month. Address your questions to him at his office.

The accompanying plan shows the building as constructed and the equipment as installed. The additional length of building that would have been required had straight track washers of the same manufacturer been selected, is partly shown on this plan in broken lines. As you can see the Can Washing Deck, Milk Handling Room and Tank Truck Room would have had to have been located approximately 15′-0″ to the north to allow for the straight track washer, adding 15′-0″ to the length of the new building. To do this meant demolishing that much more of an existing building which formed the lower end of a "T" shaped manufacturing plant, the main part of which runs west to east. Had it been necessary to do that, existing toilet and locker rooms would have had to have been replaced in another part of the plant and refrigeration equipment could not have been installed adjacent to the Tank Truck Room, thereby adding further cost to the project.

As stated above the layout was planned for the return track washer and the saving made was a direct result of planning and equipment selection. With a set of conditions other than those presented, the layout, undoubtedly, would have been entirely different and it may have been advantageous to select straight track washers to meet those conditions.

However, at Chateaugay, the adjoining buildings and access road dictated the new building location, the unloading and loading positions and thereby the milk flow. All equipment, with the exception of the new can washers,

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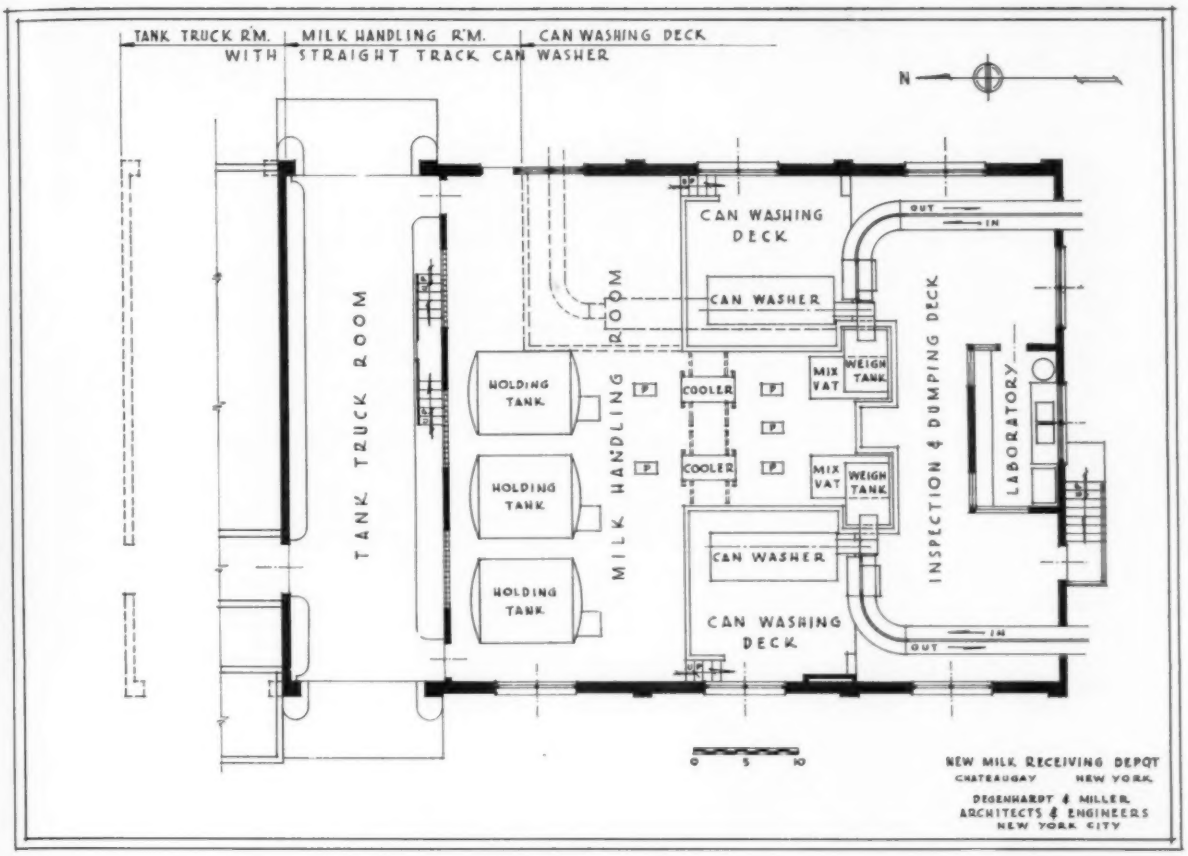


weigh tanks, some additional conveyor and a pump or two, was moved from an existing operating plant. The new equipment was sized in accordance with the number and size of loads on farmers' trucks, which made it necessary to install a third pump to by-pass the lower capacity coolers and send uncooled milk to the Cream or Cheese Rooms.

With these and the usual other conditions, the Owner's representatives with the equipment manufacturer developed a layout which met all of the requirements. The Architects and Engineers completed the team and developed the building to house the equipment and the mechanical services to make it operate.

The initial cost of the building was carefully considered but first consideration was given to low maintenance costs. As a result the only building maintenance work regularly required is limited to painting the flush metal covered doors and channel bucks, the wood overhead doors of the Tank Truck Room, the removable panel in east wall, the metal platforms and handrails and the pipe insulation. The exterior walls and interior partitions are Speed-wall tile on concrete foundations and the sash are aluminum. The roof construction is concrete plank, Foamglas insulation to avoid condensation, built-up roofing bonded for 20 years and flashed with copper. This is all supported on long span open web steel joists to the underside of which is attached a cement-asbestos board ceiling trimmed at joints with aluminum mouldings. The floor finish throughout, except for the cement finished Tank Truck Room floor, is 4"x8"x1⅝" floor brick pitched to floor drains. Acid proof joint filler was used in brick floor areas where acid cleaners are used on equipment. Joints in the rest of the plant were grouted with a mixture of anti-bacteria cement and fine sand.

Although the initial cost was increased slightly by some of these materials, the Owners have a building that is practically free of maintenance charges for many years.

SPRING AND FLAVOR TROUBLE

Old hands at dairying turn cows on pasture gradually in spring, and there are several good reasons for this, notes Elmer C. Scheidenhelm, extension dairyman at Rutgers University.

For one thing, young grass has considerable moisture, and high producing cows cannot get enough dry matter from it to keep up milk production. Better wait to turn cows on pasture until the grass is 4 to 6 inches high, Scheidenhelm advises.

Then it's better not to leave cows on pasture more than an hour or two a day for several days, making sure to give them their usual feeding of hay and silage or both before they are turned out.

How to Develop

A ROUTE MANUAL

By J. E. BEDFORD

EVERY TIME a new route man was hired at the dairy it took time to explain all the rules to him. Of course all of the rules and suggestions included in this indoctrination training were important. They were designed for better service to the customers, safer handling of the delivery equipment, and good selling methods.

These rules and suggestions, even though important to the new routeman and the dairy, were soon forgotten by the new driver. These men were interested in doing a good job, but, since they didn't have an opportunity to put the rules into practice the first week, they forgot them.

Then when the driver salesman had a need for the rule or suggestions while on the route he had to handle the sales problem on a hunch. For instance, one dairy had a rule that when a customer didn't pay her bill after collection stops no more milk was to be left. A new driver let a bill carry on for a month before stopping the delivery because he didn't remember the exact rule and didn't ask at the plant.

The route manager couldn't be sure that he had covered that specific rule with this new driver when he was giving him all of the rules and selling suggestions. Of course the rule was explained and the driver salesman knew what he was to do in handling delinquent accounts, but the route manager wasn't sure.

Sound Training Pays

Trial and error handling and learning is costly to any dairy. It takes time and may cost far more money than sound initial training. But, presenting rule upon rule is confusing to the new employee. He is bound to forget some, get others mixed, and in general be in hot water for a time.

To overcome this difficulty the dairy set about the task of preparing a route manual to be issued to all new route salesmen. It wasn't costly to produce and it gave the men a handy source of rules and suggestions when some new problem came up away from the plant.

Developing a route manual requires a great deal of time and paper work. It takes vision and revision, but when completed the new driver salesmen will be better equipped to give milk customers better service, take better care of the equipment, and sell more milk. It will also eliminate the confusion and costly trial and error decisions made on the route by the new men.

For dairies that don't have a route manual for their driver salesmen here are a few points to consider in the development of one. These suggestions can also serve as a check list for route manuals that aren't doing a full job for the dairy—stimulating the drivers to sell more milk.

Develop Outline of Sections

As the first step in developing a route manual the number and content of the various sections should be considered. Dairy route managers have a variety of opinions on what should be included; however, most dairy route manuals cover the following topics: company history, rules and regulations, sales and credit policies, selling tips, truck care, safe driving, and company personnel policies. Other sections can be added on the plant, production, and selling points for specific items such as cottage cheese, butter, and other products sold by the routemen.

Prepare Section by Section

Writing a dairy route manual may seem like a stupendous task when it is first considered by the route manager. It is. But, if the manual is prepared section by section it won't be as difficult and when finished it will be complete.

One route manager started collecting thoughts and ideas for the dairy route manual section by section in a

POINT-OF-SALE IDEA

The Alamito Dairy Company of Omaha has placed an order with the Charles L. Dwinell Company, Kansas City, for a replica in plastic of their own milk carton. The carton is designed to be used as a point-of-sale piece in grocer outlets in the Omaha trade area. The exact replica is built oversize and lighted within. According to Jack Prall, Sales Manager of Alamito, the grocer reaction to the model of this display was very favorable.

R.G. WRIGHT *has can washing news*

WRIGHTDRAULIC DRIVE

shorty

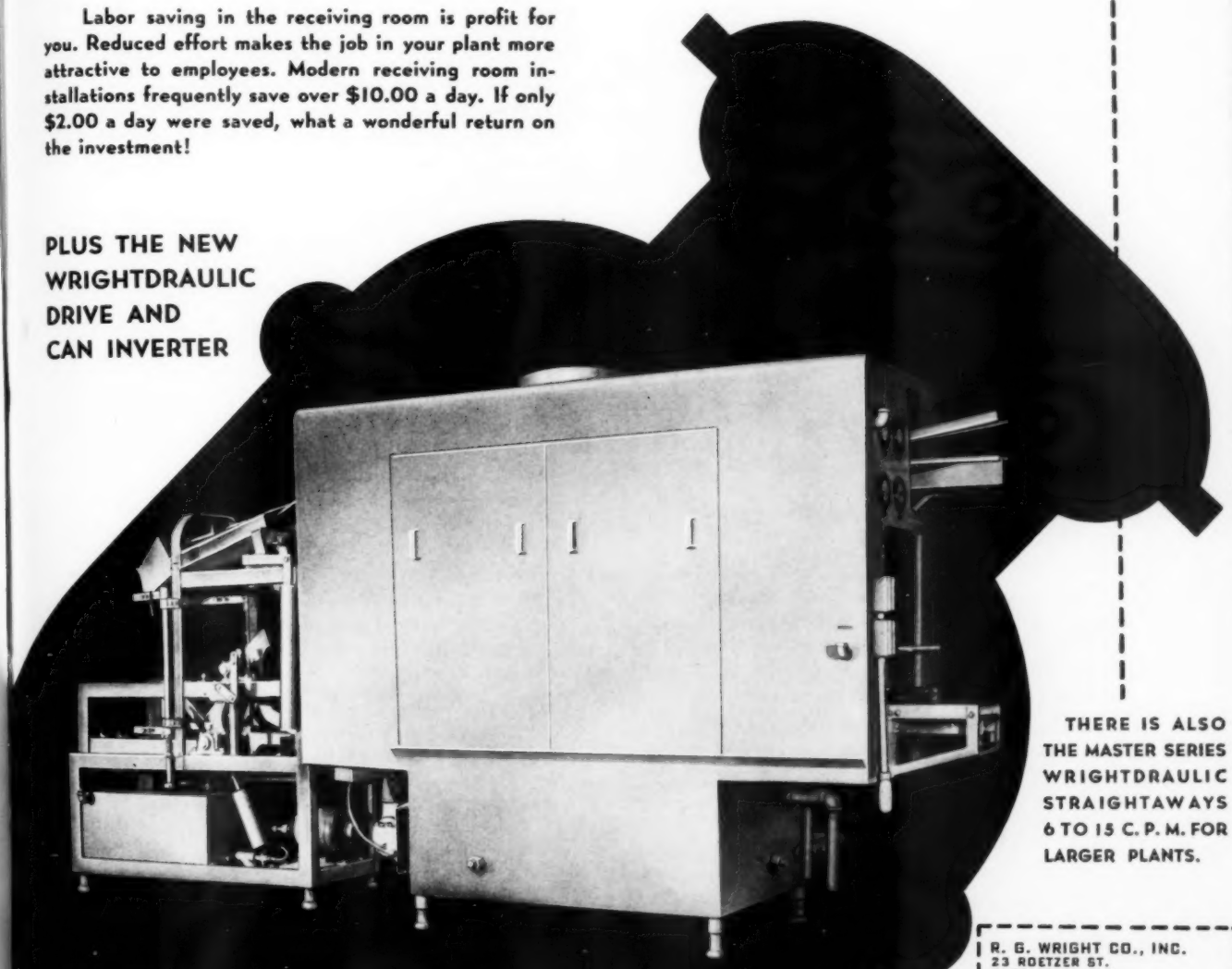
4 TO 5 CANS PER MINUTE

STRAIGHTAWAY CAN WASHER

The Wright "Shorty" makes available for the first time to medium size milk plants those features essential for really clean cans. Included are all the treatments generally advocated by recognized health authorities. Equally important are the advantages of the Wrightdraulic Drive and Can Inverter, with which the "Shorty" is now equipped. This means really big plant operation in a limited space at a surprisingly low cost.

Labor saving in the receiving room is profit for you. Reduced effort makes the job in your plant more attractive to employees. Modern receiving room installations frequently save over $10.00 a day. If only $2.00 a day were saved, what a wonderful return on the investment!

PLUS THE NEW WRIGHTDRAULIC DRIVE AND CAN INVERTER



THERE IS ALSO THE MASTER SERIES WRIGHTDRAULIC STRAIGHTAWAYS 6 TO 15 C. P. M. FOR LARGER PLANTS.

CHECK THESE BIG MACHINE FEATURES

★ Two pumps — Two Tanks.
★ Automatic Cover and Can Control.
★ Exclusive Spray Jets.
★ Automatic Temperature Regulators.
★ Heavy Gauge All-welded Construction.

All these features are standard on this washer

R. G. WRIGHT CO., INC.
23 ROETZER ST.
BUFFALO 11, N.Y.

PLEASE SEND BULLETINS:
☐ SHORTY 4 TO 5 CANS PER MINUTE
☐ MASTER SERIES 6 TO 15 CANS PER MINUTE

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ADDRESS _____

CITY _____ STATE _____

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PACIFIC DAIRY & POULTRY ASSOCIATION
Our Butter Committee says,
"Let's SELL Butter
EMBOSS "BUTTER" ON EVERY QUARTER
GET "BUTTER" ON THE DINNER TABLE
BUTTER

West Coast Pushes Butter

If every *family* in the U. S. A. would use one extra slice of butter daily, there's a good possibility of using up the 1950 surplus!

Russell Fifer, (right), Executive Secretary, American Butter Institute, Chicago, demonstrates a "slice" from the Pacific Dairy and Poultry Association's butter display hich also features the embossing of "BUTTER" on quarter-pound cubes.

"This startling possibility developed in the Butter Conference of our recent Pacific Dairy and Poultry Convention in Los Angeles", said Henry D. Greene, Executive Secretary, (left). "It was brought out that an added use of 21 ounces of butter per capita per year would consume present and probable future 1950 surpluses."

loose leaf notebook. He considered every detail that would effect each section of the manual as he accumulated the information. Then he reviewed this later and added any new thoughts to the section.

If the information is prepared in a rough draft form as it is accumulated for each section corrections and additions can be made easily. Another advantage of the section by section approach is that it is easier to concentrate on one section of the route manual and one problem at a time.

Encourage Cooperation of All

A route manager could prepare the route manual for his dairy without any cooperation from other members of the staff. It can and has been accomplished and some plant managers feel they are the best qualified to handle the work. To be sure, a route manager is the best qualified, but any route manual prepared by one individual may overlook some points. Then too, a route manager has other things that require his attention in addition to the route manual and cooperation makes the task easier.

Preparing the route manual is only one step. After it is prepared the manual must be used to be of any value to the dairy. If everyone has a hand in its preparation they will be more interested in checking on the observance of the rules included in the route manual.

Encouraging and accepting suggestions from everyone in the organization for the route manual will go a long way to weld the production, maintenance, and sales organization into one unified operating unit.

Discuss Before Final Draft

As each section is completed in rough form it should be thoroughly discussed with everyone in the plant. This will serve to discover any errors that have crept into the manual without detection by the route manager.

For instance, the maintenance manager may have changed the use of some standard form in a certain way to save time in servicing the trucks. Checking the points like this with everyone before the final draft is prepared will eliminate most errors in the finished manual.

Any modifications that should be made can be discussed at this time before the manual is reproduced in its final form. It is easier to make revisions at this time than after they have been set up as standard procedure for the dairy.

Make Provisions for Revisions

Regardless of how well the plans are made for any dairy route manual certain revisions will be necessary from time to time. When preparing the route manual most route managers will make some provisions for revisions that are bound to occur.

For instance, some new credit rule may be issued, a new line added with selling tips included, or some special procedure on reports required changed. All of these can be included easily if the manual is planned for some revisions when it is prepared.

Since the route manual is to be used as a set of rules and regulations and selling suggestions for the dairy routemen it will be better accepted if the manual has the endorsement of the plant manager. In some cases a forward or brief comment by the boss makes the manual mean more to the driver salesmen when it is presented to them.

Sell the Manual to the Drivers

Both old and new driver salesmen will be better able to do the job required of them if they are given a complete review of the finished route manual. It will help them better understand their job and their responsibilities.

Selling the route manual to the drivers has another advantage. It provides management with an excuse for some extra training on standard procedure and selling techniques. Revision again presents the chance to train the drivers through a review of the section being changed.

Any effort made to eliminate the confusion on rules, regulations, procedures, and selling methods will help driver salesmen. When they know their job completely they will do a better selling job for the dairy. More sales mean just one thing . . . more profit.

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OVERSELLING IS AS BAD AS UNDERSELLING

By Frank W. Gray

MEN who want to become salesmen, but are worried about their lack of eloquence, can be reassured by this observation: It is a common fault in selling to talk, not too little, but *too much.*

Good selling follows the general rules of intelligent conversation, and in this respect the art of listening is just as important as the gift of gab. Ever notice how a trained speaker uses pauses for emphasis? A pause in the right place is more eloquent than a stream of words.

Many salesmen are so anxious to get their sales story across that they talk too fast, too vehemently, too continuously. You can't dominate an interview by overselling – you merely increase sales resistance.

It reminds us of the story about the cub salesman who had completed his training course and was starting his first day at selling automobiles. An old gentleman walked in, looked at one of the new cars, asked the price, and said he would buy it. He began to write a check when the young salesman interrupted him: "See here," he said, "you can't buy this car yet – I haven't even given you my selling talk."

A salable proposition does not have to be expounded like an oration. It is more convincing when presented quietly, intelligently, and in a relaxed mood which permits the prospect to do some thinking for himself.

There is an art in saying just enough, and no more – to presenting your proposition simply and confidently in terms that your prospect can understand. And there is an art to terminating an interview at the right time.

Here are a few points that will help you to check yourself against the dangers of over-selling:

When carrying on a conversation do you find that you have been so busy planning your next remark that you have lost track of what the other person is saying?

Do you find that while you are talking your listener makes several attempts to interrupt you before you are finished? When you are talking on the phone does the person at the other end make some transparent excuse for terminating the conversation?

Do you find that the word "I" pops up constantly in your conversation? Do you make a practice of using a lot of words to justify your motives?

These are symptoms which indicate that you are not selling yourself, that you are not sure of yourself, *that you are talking too much.*

STOELTING

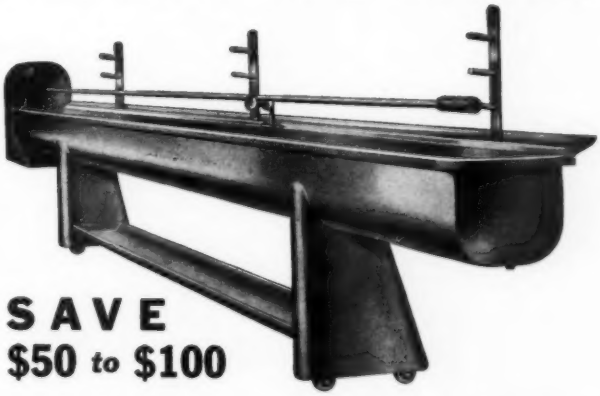
ADVANCED EQUIPMENT

★ Modern Design
★ Finest Stainless Steel Craftsmanship
★ Plant Layout and Engineering

Compare! AND CHECK THE EXTRAS YOU GET IN A

STOELTING

SANITARY PIPE WASHER



SAVE $50 to $100

Get *all* the extras in a Stoelting Sanitary Pipe Washer *without* extra charge. Check these *included* features before you buy: *Complete* power assembly; covered hood for motor, pump and power assembly; set of four easy-rolling casters for quick portability; sturdy pipe rack; full back apron; broad lower shelf; 1½" sanitary pipe brush — everything you need for fast, thorough, economical pipe washing — backed by Stoelting time-honored craftsmanship for extra years of service. Save time . . . save money . . . get *all* the *extras* in Stoelting . . . by far today's best buy in pipe washers. Only $259.60 (F.O.B. Kiel, Wis.) for a ten foot model; other sizes priced accordingly. Make your dollars *do more* and *go farther* with a Stoelting Washer.

For Extra Values and Extra Features Write

STOELTING BROTHERS CO.
Manufacturing Engineers for the Dairy Industries
KIEL • WISCONSIN

NEAL D. KELLY

Dairy Leaders See June as Gold Plated Sales Opportunity

Huge Promotional Campaign Looks Like Money in the Bank to Dealers Who Use It to Advantage

JUNE IS THE MONTH for more sales and profits. Providing this sales momentum is the 14th consecutive DAIRY MONTH Campaign, the industry's gigantic public relations and merchandising opportunity to move more dairy foods from the thousands of food outlets across the nation to the 41,000,000 family tables in every city, town and hamlet.

There's no guess work about the selling power of June DAIRY MONTH. All it takes are the products to sell and the will to sell them. In the past campaigns, dairies, food stores, fountains and restaurants have increased sales of dairy foods 20% to 30%. The national stage is being set for you to cash-in on this million-dollar tide of promotion and publicity through the June DAIRY MONTH Committee for Public Relations, with Lloyd H. Geil as National Chairman, and the Committee for Industry Participation, with Neal D. Kelley, as National Chairman, both of the National Dairy Council, Headquarters of the Campaign. These committees are composed of representatives from the sponsors of the nationwide sales campaign and are assisted by State Chairmen, State Association Secretaries and hundreds of other executives from the dairy and allied industries and organizations.

Push Has Power

What's the power behind this nationwide drive? Here's a brief sketch to help you follow through with similar promotional activities to stimulate sales on your own Main Street.

1. The nation's daily and weekly newspapers, with circulation well over 75 million, telling the economic, social and nutritious significance of dairy foods through news stories and special features, with pictures.
2. Personal, letters and telephone contacts with the radio and television broadcasting chains to initiate programs which interpret the dairy industry and salute dairy foods. Based on last year's records, these contacts should provide well over 5,000 programs during the 30 days in June.
3. Secretaries of 96 restaurant and hotel management associations receiving June DAIRY MONTH information to feature in their bulletins to members who influence the buyers that buy food for nearly two billion meals a month.
4. Managers of 38 State Press Associations provided with editorial and advertising material to promote the campaign with their thousands of member newspapers.
5. Service clubs, such as Rotary, Kiwanis, Lions throughout the country, receiving special features on how to tie-in with programs saluting the dairy industry. The circulation of their bulletins and magazines is well over 800,000.
6. National magazines, like Life, Colliers, Look, Saturday Evening Post, Country Gentlemen, and Farm Journal,

This official poster, one of the many pieces of promotional material being distributed, presents the Big Four of the dairy industry.

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read by 25 million people, tying in with advertising, merchandising and editorial ideas, all designed to stimulate greater use of dairy foods on the family table. Their merchandising pieces are directed to thousands of outlets, such as drug stores, food stores, chain stores and many others. Some of these outlets alone do well over 37% of the food business in the country.

7. The National Headquarters of the Junior Chamber of Commerce and 1,500 chapters, working with DAIRY MONTH Headquarters, State Chairmen, and Association Secretaries in promoting a nationwide DAIRY MONTH Queen Contest. One of the most popular projects, it provides a tremendous amount of good publicity from the press and radio.

8. Allied industries cashing-in on dairy foods sales opportunities sparked by the June DAIRY MONTH merchandising and public relations campaign. Among them are: Independent Grocers Alliance, National Association of Chain Drug Stores, National Association of Food Chains, National Association of Retail Druggists, National Association of Retail Grocers, National Restaurant Association, National Hotel Association, The railroad industry, variety stores, and hardware and department stores.

9. Letter to June DAIRY MONTH State Chairmen outlining the public relations opportunity in a kick-off dinner to launch June DAIRY MONTH. Approved by the Sponsor Committee, it offers untold opportunities to get the June DAIRY MONTH campaign started in the direction of more sales.

10. Letter to the June DAIRY MONTH State Chairmen urging them to contact the Governors for proclamations which pay tribute to the dairy industry.

11. News stories and dairy food recipes to newspapers, syndicates, metropolitan food editors, radio editors, magazine editors, and food companies.

That's a good sample of what you are getting through the planning of your Public Relations Committee, in cooperation with the nation's press, radio, television, bulletins, food stores, and thousands of other outlets.

How to Cash In

What can you do to take advantage of this million-dollar public relations campaign? You can:

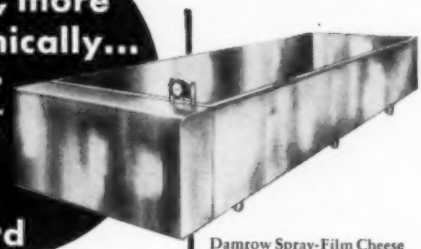
1. Localize the campaign by capitalizing on the national and state publicity through publicity in your local newspapers and through programs over your local radio stations.

2. Provide plenty of display and point-of-sale materials for the hundreds of food outlets in your community. These outlets are cooperating through national organizations. You make it possible for them to highlight dairy foods by giving them the necessary promotional material for counters and walls to stimulate the buying urge when Mr. and Mrs. Consumer buy their dairy food needs for their families. You know, dairy sales in food stores amount to 22% of the total food volume.

3. See that the June DAIRY MONTH 17 x 22 inch colorful, eye-appealing poster is posted in every food

new DAMROW
spray-film cottage cheese vats

heat faster, more economically... without "hot spots" or burnt curd



Damrow Spray-Film Cheese Vat, rear view showing stainless steel construction, and hood over pump and circulating system. Capacities, 2700 through 10,000 pounds.

Here's the vat that improves your cottage cheese production. By a new principle of heating "from the top down," hot water is sprayed at the top of the inner lining, running down in a film, collecting at the bottom to a level just above the vat pan bottom. Rapid circulation means more efficient heating at lower temperature, a great economy and safety feature which avoids "hot spots" and curd burning, assuring better cheese quality and flavor.

Completely sanitary throughout, the new Spray-Film Vat has a stainless steel inner lining, oversize circulating pump, oversize, non-clogging spray pipes. Low water level eliminates possible vat lining bulging, a safety and service feature that provides longer years of service.

Damrow JUNIOR Spray-Film Cottage Cheese Vat. Similar to larger vat except pump is beneath the vat. Capacities, 405 through 1550 pounds.

Rear view of new Damrow Spray-Film Cheese Vat showing pump, circulating system and bottom construction.

Improve YOUR Cottage Cheese production and quality. Ask your Damrow Jobber, or write for details today on the new Damrow Spray-Film Vat to fit your needs.

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IN THE NEWS

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Scientific methods now simplify can washing. Dull, filmy, lime streaked and milkstone encrusted cans need no longer be tolerated.

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Clean cans no longer are re-limed with baked on mineral precipitates in the sterile rinse position.

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outlet on Main Street. Get your supply of posters from National Headquarters, National Dairy Council, 111 North Canal Street, Chicago 6, Illinois.

4. Urge every one of your employees to be a better salesman and merchandiser of dairy foods during June. Your salesmen make direct contacts with the homemaker who does 85% of the buying in a home.

These are only a few concrete ways in which you can take advantage of this nationwide public relations and merchandising campaign. It's action now! You can increase your sales of dairy foods from 20 to 30%. It's been done; all it takes is an organized merchandising public relations campaign by you in your own market.

Milk producers in the Louisville, Kentucky, market are planning an advertising campaign intended to increase the demand for bottled milk. Directors of Falls Cities Co-operative Milk Producers Association met recently to act on a proposal for the program.

The association directors propose to finance the campaign by raising the association dues from 4 cents to 5 cents per 100 pounds of milk sold by each member.

SLAPS PRICE SUPPORTS

Current techniques in handling the government price support program for dairy products are short-circuiting regular trade channels, diverting stocks to the government, and killing all incentive in merchandising for increased consumption, declared Russell S. Waltz, Seattle, Wash., general manager of United Dairymen's Association, speaking here Monday at a meeting of the National Milk Producers Federation.

"Because of the failure to utilize in the government program seasonal and normal-marketing price differentials, butter and other dairy products are being driven into government storage," Mr. Waltz asserted. "Distributors have no incentive to hold inventories for future sale, and have little occasion to spend money in merchandise promotion when they can sell their stocks to the government without such costs.

"As a result," Mr. Waltz continued, "the consumers and the dairy industry are suffering. There is no encouragement to the consumption of higher quality butter, for example, with the government purchase of Grade A butter running seven to one over the lower grades. Such a program is of no service to the future of the dairy industry."

Waltz emphasized that the surplus disposal problem is not entirely a government job, but one in which producers have a primary, and distributors a secondary interest. It is not too late in this year, he said, to correct the errors of the present program to the benefit of both the producers and consumers.

"The Federation has recommended that the dairy products support purchases be on a terminal market basis with seasonal price variations," he said. "The Federation program would provide adequate supplies of dairy products through normal trade channels. It would encourage consumption; tend to eliminate government purchases; provide incentives to the dairy industry and afford good returns to producers at prices consumers can pay."

XUM

FEEDING AND FLAVOR

PECULIAR FLAVORS that cause children to refuse milk can often be prevented simply by feeding the cow the right kind of roughage, Professor Vladimir N. Krukovsky of Cornell University declared recently at the 117th national meeting of the American Chemical Society.

Explaining that metallic and fishy tastes are associated with the deterioration of the thin membrane that surrounds each tiny globule of fat, Professor Krukovsky said that this membrane can be preserved to some extent by vitamin E, which is found in varying amounts in the oil of many plants.

Vitamin E is a natural safeguard against the type of rancidity caused by oxygen, he said, and its effects may extend beyond the cream layer down into the skim milk.

In fact, the chalky and tallowy flavors, which may have developed in the skim milk at the end of twenty-four hours' storage, can be banished by redistributing the fat throughout the milk, he noted pointing out that this seems to explain why homogenized milk, in which the fat remains scattered, is relatively immune to oxidized flavors.

"Thus," he stated, "we may conclude that the palatability and the nutritive properties of milk and milk products can be ultimately improved and made more nearly uniform throughout the year not only by controlling the handling of milk during storage, but also by controlling the type and quality of roughages fed to the cow."

Milk was designated by nature to pass directly from the mammary gland into the digestive tract of mammals, Professor Krukovsky continued. However, the use of milk as a food by human beings involves a lengthy period of storage prior to consumption.

To keep milk from becoming objectionable during the journey from cow to consumer, it is necessary to do battle against harmful bacteria and certain natural chemicals called enzymes as well, according to Professor Krukovsky.

"For example, in raw milk the fat can be split into several substances by a milk enzyme called lipase," he explained. "Some of these substances may give the milk a rancid odor and a bitter taste."

Fortunately lipase, which is stimulated when cold milk is warmed and then recooled, can be stifled by pasteurizing the milk, he said. Even when milk is pasteurized, the fat and fatlike portions may become chalky, tallowy, metallic, or fishy tasting because of a joint attack by vitamin C and dissolved oxygen, it was observed. This attack is reinforced by small amounts of copper in the milk and by exposure to light.

Professor Krukovsky addressed a session of the Society's Agricultural and Food Division in the Broadwood Hotel.

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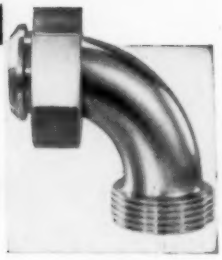

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INDUSTRY GAIN IN TEXAS

Substantial Climb in Volume of Manufactured Products — Retail Price Cut in Dallas

By JIM TAGGART

TEXAS DAIRY manufacturing climbed 11 per cent from December to 47,899,000 pounds, milk equivalent, in January, according to the Bureau of Business Research at the University of Texas.

The level was 38 per cent above a year earlier, but 10 per cent below the January 1935-1939 average.

After adjustment for seasonal variation, the Bureau's index of Texas dairy manufacture rose 3 per cent to 84 in January (1935-1939 month equaling 100) from 82 in December and 65 in January, 1949. With the exception of a 7 per cent decrease in both comparisons for "other" dairy products, all types shared in the over-all increase from both the preceding month and from January a year ago.

Butter production in January stepped up 9 per cent from December and advanced 58 per cent from a year earlier. However, January output of 1,221,000 pounds dropped 39 per cent below the January prewar average.

Ice cream manufacture totaled 1,287,000 gallons in January, a 9 per cent rise from December. This amount was 26 per cent above January, 1949, and 358 per cent above the January 1935-1939 average. Cold storage holdings of dairy products in Texas slid 4 per cent from December to January. With the exception of a 2 per cent gain for all varieties of cheese, all types of dairy products showed decreases. Plastic cream fell 65 per cent, fluid cream 43 per cent, creamery butter 15 per cent and evaporated and condensed milk 4 per cent.

In comparison with January, 1949, holdings of dairy products in cold storage gained 15 per cent in January, 1950. Holdings of evaporated and condensed milk advanced 54 per cent and cheese 26 per cent. Plastic and fluid cream fell 94 per cent and 87 per cent, respectively.

Drop Retail Prices

Major milk distributors in Dallas, March 6, indicated they planned to follow Cabell's, Inc., in lowering retail prices on half-gallon containers by two cents.

The reduction, announced March 6 by Earle Cabell, executive vice-president of the company, at retail stores will be from 39 to 37 cents for the two-quart container of milk.

Cabell said the new price would mean a 3-cent saving to housewives who have been purchasing two quarts of milk in single quart units. The single quart price is 20 cents. Instead of buying two single quarts for 40 cents, he said, housewives can buy the half-gallon container for 37 cents.

Delivery prices on the two-quart unit to Cabell customers will be reduced from 41 to 39 cents, Cabell said.

"The new price policy is being put into effect in all of the areas in which Cabell's distribute their milk and milk products," he said.

XUM

Most other major dairy distributors, in a March 6-poll, said they planned to meet the new price on half-gallon containers. "We can't oversell our competitors," Joe Daniels, supervisor for the Bluff View Farm, explained. Daniels said his company had not yet decided on its new price.

At Metzger Dairies, Jacob Metzger, vice-president, said the company probably would take some action on lowering half-gallon milk prices immediately.

"We will meet Cabell's price on the half-gallon unit," said Ted Robinson, general manager of the Borden Company in Dallas.

Lindsley Waters, Jr., vice-president of Tennessee Dairies, said his company was attempting to get more details on the milk price cut. "I'm sure we will meet the reduction," he said.

Officials at the Purity Milk Co., Oak Farms and other dairies said they were delaying their decisions on new prices on the two-quart unit until they could obtain additional market information.

Cabell, in his announcement, said the company would continue to pay the same price to producers. "This reduction in price was made without lowering the price of Grade A raw milk to the producing dairymen," he said.

Cabell expressed hope that the reduction would result in increased demand during the spring months when a surplus is expected in this area.

●

OREGON SCHOLAR HONORED

The $1,000 Borden Award in the Chemistry of Milk for 1950 will be presented to Professor George A. Richardson of Oregon State College on the evening of April 10 during the Philadelphia Session of the American Chemical Society's 117th national meeting, it is announced by Dr. Ernest H. Volwiler, president of the Society and executive vice-president of Abbott Laboratories, North Chicago, Ill.

Dr. Richardson, a native of Canada who is professor of dairy husbandry and dairy chemistry at Oregon State, was cited for his outstanding contributions to the knowledge of the physico-chemical properties of milk. He will receive the award, which includes a gold medal, at a general assembly of the Society in the Bellevue-Stratford Hotel, Philadelphia. His award address, on "Some Dynamic Properties of Milk," will be delivered on the morning of April 10 before the Society's Division of Agricultural and Food Chemistry.

The 1950 Borden medalist is credited with the first scientific explanation of the rennin coagulation of milk. Rennin is a chemical agent of animal origin used in the manufacture of cheese.

His work on the stability of carotene in milk and milk products showed carotene, a substance from which vitamin A is formed, to be a suitable coloring for butter. A simple, practical method was evolved for measuring the carotene content of churning cream, and for calculating the proper amount of carotene color to use to produce a given shade in butter. In a search for agents to keep milk from turning sour, Dr. Richardson showed that certain flavoring materials derived from fruits were of value for this purpose.

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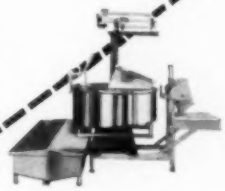

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The Boston Program for

QUALITY CONTROL OF CREAM

By FRANK E. MOTT
Boston Health Department

WHAT IS THE Boston cream supply problem? What is the problem? What is the cream like. How does it get that way? Boston, with about 800,000 population, is small as compared with our really large cities. Our cream supply appears small, on the basis of population, unless you understand that the Boston licensed, supervised and controlled cream supply distributed by Boston license dealers, is the cream supply of the 2,500,000 persons who live in Metropolitan Boston and further. In fact, it is the cream supply of 98% of all Massachusetts' 5,000,000 persons.

Prior to 1923 all Boston cream was separated from Boston inspected milk and was of very poor quality. In 1923 the first carload of western cream arrived for the Boston market – just one carload in that year. You see the quality of milk was improving so that the consumption of milk and ice cream was increasing and the supply of cream separated from Boston milk was shrinking.

More cream from the west arrived by carload in 1924. When 1928 came around, cream from the west was arriving in every month of the year and, on the average, every week in the year and by the carload. Since 1928 without western cream we would have had no cream supply.

In the beginning the quality of the cream supply from the west was very bad. The control was so incomplete that the market was subject to spot shipments. Consequently, for example, a carload of western cream might go first to Philadelphia and finding no buyer, perhaps because of quality, would be diverted to some other market, perhaps Boston.

In 1923 I arranged with the railroads, as there were no truck shipments by highway, to hold every carload under seal until my representative had sampled it. In the laboratory we then did a complete analysis of that cream, chemically,– chemically because adulteration by neutralizers, water or foreign fat, was then the big problem. Bacteriologically, the quality of all cream was bad. There were no legal standards.

A chemical analysis of such a volume of cream became very burdensome. The need to devise a new method of control became painfully imperative. The opportunity to devise and apply a new method presented itself in 1938 when the people of the milk industry came to me and said they were discouraged because they were completely stymied in their efforts to improve the quality of milk. They said they wanted to sell better milk as required by the laws and would be very happy to do it if some one showed them how to get better quality and they asked me to devise a new method of control. I agreed, provided they would include cream in their request, since a complete job could not otherwise be done. The reason the cream had to be included was that cream goes through the same equipment that milk does and is used for standardization purposes. The industry agreed. The result was the so-called "Mott Program of Quality Control."

In devising a new method of control for cream, I first stated my objective and that is *"Cream of good quality in the bottle as delivered to the consumer."* I define good quality as pasteurized, free from foreign substance including added water, and having a standard plate count at 32° C. of less than 40,000 colonies of bacteria in one cubic centimeter. I arrived at 40,000 as the standard in this way; one grade of milk before pasteurization whether the final result is sold as milk or cream. Our standard for our poorest grade of pasteurized milk is not more than 20,000 colonies of bacteria in one cubic centimeter. Cream from such milk would have not more than 30,000 colonies and I allowed an increase of 1/3 for handling, thus getting the result of 40,000. Another fundamental starting point was that milk must be in quality equivalent to Massachusetts legal raw milk before pasteurization whether the final use would be milk or cream.

I then recognized that we have a legitimate ice cream industry which uses huge volumes of cream, and also a

ALL IN THE POINT OF VIEW

The other day a dairyman friend of ours encountered a colleague he had not seen for a number of years. The two old cronies were delighted to see each other and adjourned to a nearby pub to bring each other up to date. The conversation turned on family matters and our friend's friend revealed that his daughter had recently presented him with a grandson.

"How time flies," was our friend's clever rejoinder. "Gosh, it seems as though it was yesterday she was born. I thought she was still in junior high school. Makes you feel old, doesn't it?"

"Well, no it doesn't," our friend's friend said. "Being a grandfather doesn't bother me at all. I only feel old when I think that I'm married to a grandmother."

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relatively small cream cheese industry. Since both ice cream and cheeese are pasteurized, it seemed logical to consider them as potential users of cream which might be shipped as bottled cream in good faith but which, on arrival, might be found to have more than 40,000 colonies of bacteria. I recognized that such arrivals of cream, because of human error, would occasionally be inevitable.

A licensed system for shippers seemed imperative.

I recognized further a fundamental fact, which is often overlooked, that the cream industry is peculiar in certain respects. It is peculiar because desirable shipping points for western cream are plants which handle milk under the supervision of large western cities which have good inspection programs. Such large plants have cream from surplus milk to sell at times. However, when the cities in the west need milk, the milk at those plants which did go to cream, will be shipped as milk. Western plants also have other obligations which make it impossible for an eastern market to be able to determine with certainty that on short notice it can always get a carload of cream from a particular plant. Consequently, there must be more potential shippers of cream than are apparently needed. Another way of stating this important fact, is that when cream is short and you need a carload of cream you must first find who has a carload to sell. That carload may be available today at a certain moment but it may not be available an hour later, for everyone is likely to be looking for cream. If the potential shipper is on the licensed list, fine, but suppose he is not on the licensed list but is willing to guarantee that the cream will comply with all laws and standards relating to cream. It is obviously impossible to wait to send an inspector 1,500 miles away to make the inspection before you buy the cream and before the cream is shipped.

That caow is worth ev'ry cent I'm asking. She gives so much milk she hez to make two trips to the pasture to carry it all in.

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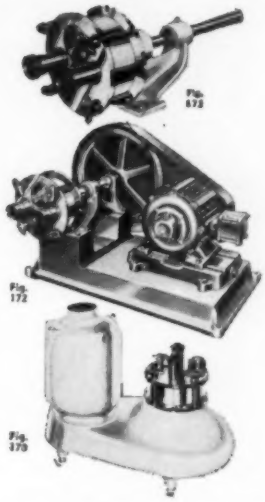

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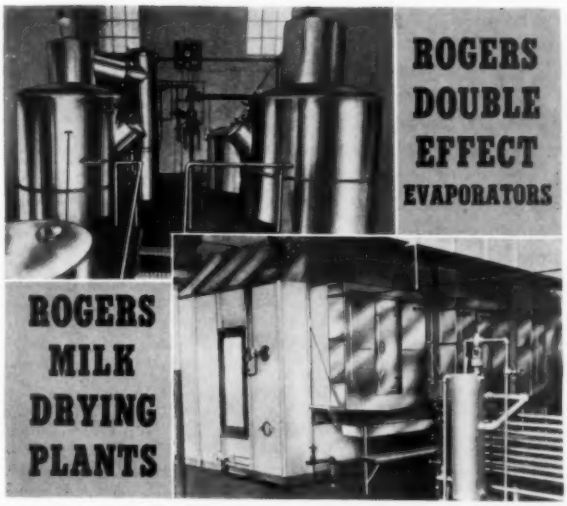

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If you've got it you've got to have some place to put it is a lesson that the government is learning more or less to its sorrow. Caves with their natural virtues as storage depots have been used extensively for keeping dairy products. Reminiscent of great treasures buried underground at Fort Knox is this train load of food on its way into a cave used by the War Foods Administration.

I then asked myself the $64.00 question, "If the cream shipped is found in fact to be good cream after testing on arrival in Boston, complying with all laws and standards, how much, if any prior inspection of dairies or plants in the west is necessary by Boston?" The answer came clearly and emphatically, "No physical inspection of western plants or dairies would be necessary in such a case."

Since this statement my appear unorthodox, perhaps I should enlarge upon it somewhat further. Boston began inspecting producers of milk, plants and dealers back in 1856. We were pioneers. We had to write our laws and standards and learn the hard way. What we have learned, we have made available to others. Now every state and every city does such physical inspection work on plants and farms. We believe that others can do this physical inspection work and we accept a sworn statement made by an official government agency on a farm or a cream plant as prima-facie evidence of the facts so far as they relate to what was inspected. If the report of the inspection states that the plant is equipped in compliance with regulations relating thereto and was found to be maintained and operated in a clean and sanitary manner, then a license to ship cream will be issued on the agreement of the applicant to comply with the regulations of the City of Boston, which the applicant says he has received and read. The license is revocable at will by the licensor. However, so long as the cream shipped is good and complies with standards, we are content.

I will repeat again the last sentence, "However, so long as the cream shipped is good and complies with standards, we are content." A licensed shipper keeps his license only so long as he ships good cream. This implies a system of control of the quality of the cream shipped. We have that system, and it is the key to our control. The license issued is to ship cream under a warranty system. The shipper makes certain tests of all batches of cream shipped. He records the results of the tests on a warranty form furnished by me. He signs the warranty as a true statement made under the penalties for perjury. He sends the warranty by air mail to the buyer. The buyer is also licensed and required by his license to sample all receipts of cream and perform similar tests of all cream on arrival. This work is done in inspected and approved laboratories. The buyer enters his results of tests on the back of the warranty as true under penalties for perjury and then sends the warranty to me. I then classify the shipment, according to the tests of quality on arrival, as bottling, manufacturing or illegal. The State Milk Control Board and the Federal Market Administrator have access to the books of all handlers of cream and to railroad and truckers records. These official agencies need my facts on quality in order to do their job of setting an accurate period price. My price for supplying the facts on quality, is a tabulated statement of all receipts of cream. I believe that no one can receive any cream from any source without knowledge of such receipt coming to my attention.

Here are the tests made by the seller and the buyer and perhaps I should repeat that such tests are made only in inspected and approved laboratories.

Microscopical smear,
Standard plate count 32 degrees Centrigrade,
Acidity,
Phosphatase,
Neutralizer.

My laboratory makes one further test bacteriologically and that is a direct microscopic clump count, using a stain that dyes live cells only. A complete chemical and bacteriological analysis is made on all samples of cream in the final container offered for sale to the consumer, but only enough check tests on the quality reports of the buyer of cream are necessary to provide assurance that no one is falsifying results. Such tests are almost unnecessary with our set-up.

Let me sum up the fundamental philosophy on which our Cream Control Plant is based:

1. A cream is either good or bad.
2. Our laboratory tests will definitely determine whether the cream is good or bad.
3. A physical inspection of the cream shipping plant or dairy farm never can determine that the cream or milk shipped from the place inspected actually will be good and in compliance with standards,

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and that is true even on the day when the inspection was made, and such physical inspections can contribute nothing to the evaluation of the cream supply which by actual comprehensive laboratory tests has been found to be good.

4. A control program to be completely successful, must not impose on industry shackles which are unnecessary and which tend to erect economic barriers between states.
5. Cut out all duplication of effort and unnecessary expense on the taxpayer and industry alike,
6. Protect the licensed shipper of cream from the unfair competition of spot shipments of cream looking for a buyer at a price depressed below the market. In other words, provide a stabilized market for your licensed shippers.
7. The result desired is a dependable, continuous supply of fresh cream of good quality.

Well, the old saying that "The proof of the pudding is in the eating," would seem to apply in this case. What is our cream like? It is fresh, continuous, dependable and 99% on arrival in Boston is less than 20,000 colonies of bacteria in one cubic centimeter, standard plate count at 32° C. and 75% of it is less than 10,000. Let me now read to you a normal laboratory report on the tests of a carload of cream from Michigan. This is taken from the record.

CARLOAD OF 250 JUGS—40 QUART—FIVE BATCHES

Tests Made By	Microscopical Smear	Standard Plate Count at 32° C.	Acidity	Phosphatase	Neutralizer
Shipper	Normal	300	11	Negative	Absent
Buyer at Boston	Normal	400 2,400 18,000 2,400 24,000	11	Negative	Absent

Presented at Third Annual Meeting, Dairy Products Improvement Institute, Inc., Hotel Commodore, New York City, January 12, 1950.

"Try again, darling. Mama's not too crazy about this one either!"

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For can washing rooms — Tough and husky 28 g. drill, coated and impregnated with neoprene — size 36" x 44" fitted with elastic straps. Maroon or white.

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Light weight vinyl plastic — resistant to milk acids, alkalis and water. Do not get stiff in low temperatures. Comfortable, attractive, economical.

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WHY NOT HYDRAULICS?

By H. P. FAUST

R. G. Wright Company

H. P. FAUST

WHY NOT HYDRAULICS in the dairy industry? Man was making practical use of hydraulics before he learned to write. The principles were well known in ancient Greece from whose language the word is derived. All of our lives we have been familiar with applications such as the jack, the hoist and the elevator, yet we have neglected to convert them to our own industry. This oversight is particularly surprising, not only because of the certain general advantages, but also because hydraulics can help solve some of the specific problems of processing plant equipment.

The January 1949 Readers Digest contained an article entitled, "A Lucky Guy," sketching the life story and accomplishments of Carrol Vickers. As a young man of twenty-one he was seriously injured in an airplane crash. His physical condition has progressively deteriorated, but his courage has never failed. Today, he is totally blind, partially deaf, bedridden and virtually paralyzed from the waist down. Despite such enormous handicaps, he is a brilliant engineer in many fields, but specializes in hydraulics.

Vickers' favorite relaxation is talking shop. During one of my visits with him a few years ago he questioned me regarding the purpose and design of various types of equipment used for dairy processing. On the conclusion of my explanations he remarked that this industry was just another example of the many which were asleep.

There are certain basic advantages to hydraulics which are generally recognized. For example, we have all seen a heavy automobile lifted high in the air for greasing by a tiny pump and motor. This demonstrates how a relatively weak rotary force can be changed into a slow but powerful direct-line movement. To do this mechanically would involve gears, cams, levers and bearings through which 70% of the input energy might be lost, while the hydraulic lift would sacrifice less than 10%. Also, the wear on the integral parts is obviously much reduced when a lubricant such as oil is used in the hydraulic system.

WATCH THEM "FURRINERS"

Headline in West Plains, Missouri, Gazette—"City Council Votes to Enforce Milk Ordinance, Foreign Producers Must Undergo Inspection by Local Officers; 'Outsiders' Have Advantage Now."

For years the automotive industry has been finding additional uses for hydraulics. Shock absorbers and hydraulic brakes have long been standard. Now we have hydromatic and fluid transmissions on many cars and it is safe to forecast that they too will soon be unversally adopted. Great strides were made during the war in the development of hydraulic pumps, valves and cylinders, particularly because of the needs of the aircraft industry. Both automotive and aircraft are hydraulically minded because of the basic reliability, simplicity, ease of control and long life. Springs fatigue and gears wear, but the shock absorber can take thousands of bumps

No competent designer of dairy equipment can afford to forget the moisture conditions which exist in a plant. To maintain adequate sanitation, sterilization with steam, hot water or germicidal liquids is essential. The atmosphere is generally so saturated with moisture that when the temperature falls at night, a film of water is precipitated on all exposed surfaces. Paints tend to peel; rust is a constant problem; and the difficulties of lubrication increase. While water resisting lubricants are available, even they do not benefit from moisture. When water is combined with lactic acid, alkalis and steam, the best lubricants may fail. Don't we ask a good deal from a man in expecting him to wash and sterilize a machine thoroughly each evening, when he knows that a complete relubricating job will then be necessary the next morning?

Moisture is far less a detriment to a closed hydraulic system. The electric motor must still be oiled, but the rest of the power unit is self-lubricating. Naturally this saves time as well as machine failures.

Notice has been served on manufacturers of dairy machinery that the compensation insurance rate in milk

XUM

plants is the highest in the food field. The profits of every milk processing operation of any size are thereby reduced. Next to broken glass, gears, cams and levers appear to be the greatest offenders.

This suggests another hydraulic advantage. Until you have searched through catalogs and wracked your brains, you cannot appreciate the difficulty of designing an inexpensive, sensitive mechanical clutch, particularly for a rotary motion, which will positively function under normal milk plant conditions. Unless checked daily, it is liable to freeze, resulting in mechanical damage, or worse yet, a serious injury. By the use of a simple pressure relief valve, which can be set to by-pass on even a slight overload, a reliable clutch can be incorporated in the hydraulic system.

Hydraulic applications are already beginning to appear in machinery designed for the dairy industry. There is no good reason why this trend should not accelerate. The great advantages which are readily apparent will create a demand which can no longer be neglected.

ACCOUNTING

(Continued from Page 16)

Loss Statement which tells you the *results* of operation for a given period of time. Too many people just look at the Net Profit shown, and let it go at that. To employ your statements properly, you have to look at the various figures in *relation* to each other. For instance, your balance sheet tells you what your Current Assets (cash, inventories, receivables) amount to, and what your Current Liabilities (accounts, notes, taxes payable, etc.) are. By dividing the former by the latter, you derive your *Current Ratio*, which tells you what your working capital margin is. Comparison of current ratios for periods as you go along tells you whether gaining or losing on your bills paying position. A ratio of 2 to 1 is considered pretty fair in normal circumstances. Another ratio is Accounts Receivable divided by Daily Average Charge Sales. This tells you the number of days' sales owing. For instance, if your daily average charge sales are $1,000 per day, and your accounts receivable are $14,000, you have 14 days' sales outstanding, that is, you are allowing your debtors an average of 14 days on their bills. Comparisons of such ratios monthly is an index of the efficacy of your collection efforts. By dividing your net profit by your net worth, you will get an idea of the return earned on money invested in your dairy (after allowing for salary for yourself out of net profits). Another common ratio employed is the relationship of net sales to total equities, that is net sales divided by total liabilities and net worth. This will indicate the *rate of turnover* of the total capital employed in the business. By reducing all figures on your Profit and Loss Statement to a percentage of net sales, you can get an idea as to whether your expenses are staying in line or if some of them are too high. Comparisons of all ratios and percentages with those of others with like volume in similar territories will show you how you stack up with others in your field.

This outline is necessarily brief and incomplete. Your accountant, if you have one, and you should, can help you pursue it further. If not, you can get from any good library or from publishers such as Ronald Press or Prentice Hall in New York City, excellent books on the subject of ANALYZING FINANCIAL STATEMENTS.

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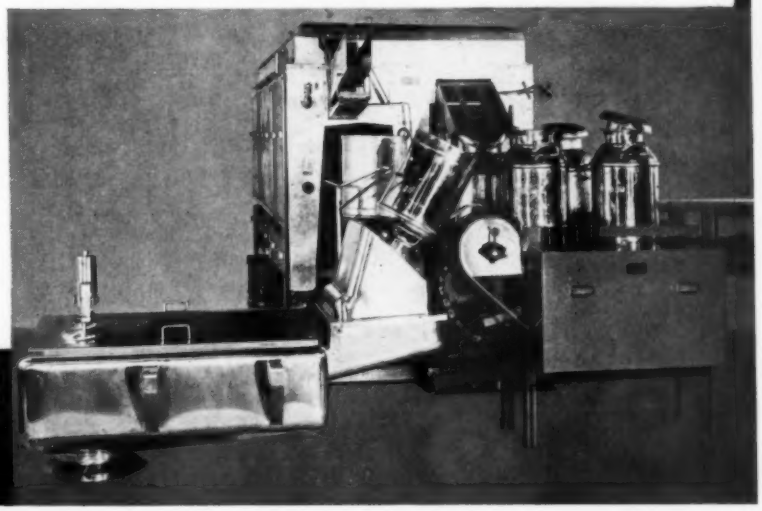

KENDALL-LAMAR CORPORATION
POTSDAM, NEW YORK

BUSY BOSSY — BUSY MILKMAN

By G. P. GUNDLACH and C. W. ESMOND

Several weeks ago, the Wall Street Journal reported to its thousands of businessmen readers that 'Busy Bossy' was, even then, producing an unusual quantity of milk.

Milkmen already knew it. This knowledge is energizing most milkmen to make unusual selling efforts. We are eager that the public shall drink, and otherwise utilize, greatly increased quantities of milk.

How can we best proceed to bring this about?

Each year, in June, we celebrate a 'milk month'. This is fine, insofar as it makes people crave more milk and dairy products for refreshment and nutrition.

But we don't kid ourselves with the idea that the public is going to respond to an appeal to drink milk in June, till it runs out of their ears, so that none of it will be wasted by running down sewers.

We all know, from experience, that people are going to use extra quantities of milk and dairy products only as a result of our giving them extra good reasons for using it—reasons that appeal to their selfish instincts.

We want people to drink more milk regularly as a beverage. Our educational efforts, and the general trend toward the homogenization of milk, enables us to make slow progress. We can doubtless accelerate this progress by putting even more sales effort behind homogenized milk.

Also, it seems to us that, as an Industry, we need to glorify the pure unadulterated enjoyment that springs from using dairy products liberally—the delightful taste; the good flavor—that we get away from the implication that drinking milk and using dairy products is a duty, and get our products regarded as being at the apex of the good things of life—the things that people choose because they like them; not simply because they are wholesome and healthful.

But what can we do *immediately*, to get a quick increase in the usage of dairy products?

We can put our by-products on the highest plane of excellence, and then merchandise them to the nth degree.

It will energize our route salesmen to multiply the number of calls they make and lead to permanently increased sales, both of regular milk and of by-products.

The average daily sale of by-products the country over is only a fraction of what it might be. Most of us have been conscious of this for a long time.

We were made acutely conscious of it in recent months by making a survey of the average number of daily units sold by milk distributors in widely different areas.

In the majority of cases, buttermilk sales averages are about four or five quarts per route per day; cottage cheese sales, two to three 12-ounce packages; five to twelve half-pints of coffee cream and whipping cream. Sour cream was occasionally mentioned, but sales were negligible.

However, as comparisons were made, a few concerns were outstanding by comparison. In the cream category, half-and-half cream is becoming prominent, and a few concerns reported average sales per route ranging from 22 pint units to 65 pint units per route per day.

In cottage cheese sales, a few were prominent with route averages—year 'round averages—such as fifteen 12-ounce packages; 21 12-ounce packages; 33 12-ounce packages. It was in buttermilk that the most striking contrasts appeared, with yearly route averages such as 32 quarts; 39 quarts; 71 quarts; 80 quarts; and 89 quarts.

It was quite noticeable that the concerns that reported high average year 'round sales of by-products also reported high average year 'round sales of the various grades of milk. Putting out excellent by-products and merchandising them vigorously does not lessen the sale of milk units. On the contrary, it helps to increase them.

It's the Customer that Counts!!!

Protect your quality from Dairy to Doorstep with this Insulated Route Box. Available in 2 sizes: hold either 60 lb. or 28 lb. of print butter — 1" insulation — no ice needed. Constructed of heavy gauge-steel — electrically welded — piano type hinge. STRONG — STURDY — BUILT FOR ABUSE. Write today for further information.

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DANISH CREAMERIES CONSOLIDATE

(Continued from Page 26)

ment. It sells milk over the whole marketing area of the 3 plants. The second plant concentrates on cheese—the third on butter. A whole milk and ice cream plant, a cheese factory and a butter factory can cut production costs much easier than can three independent co-ops—each trying to be Jack-of-all-trades putting out butter as well as cheese and fluid milk.

Denmark isn't the only Scandinavian country trying to increase the capacity of its dairy plants by consolidation. Norway had 698 plants in 1915. This number had dropped to 559 in 1947. The trend is even more outspoken in Sweden. Out of 1,672 plants in 1933 only 817

XUM

were left in 1945. The consolidation trend cannot be easily stopped. Distances today mean less and less. The complicated and expensive machinery required for the complicated operations ask for nothing else but VOLUME.

•

Bakery Market for Whey

Sweet whey, a dairy byproduct rich in food value which is often wasted or otherwise utilized inefficiently, can be used successfully in the commercial manufacture of bakery goods, says the U. S. Department of Agriculture.

As a part of its experimental work on the utilization of whey in foods under the Research and Marketing Act, the Bureau of Dairy Industry has studied the possibility of using sweet whey in bakery goods.

L. V. Rogers, baking technologist, found that fresh fluid whey can be substituted for the liquid ingredient in any sweet bakery-goods formula. Concentrated and dried whey are more practical than fluid whey for use in sweet bakery goods, however, because greater amounts of whey solids can be included in the formula.

Several bakery products, including rich yellow layer whey-cake, cocoa whey-cookies, oatmeal coconut whey-cookies, yeast raised whey-doughnuts, and whey-sweet-dough have been made and tested experimentally in the Bureau's baking laboratory. The principal advantage of using whey in these typical sweet goods is that it makes tenderer cakes, cookies, and doughnuts that keep their softness and good eating qualities longer than similar products made without whey. Moreover, the milk sugar of the whey aids in the development of a uniform, golden brown crust on the baked goods.

The Bureau technologists point out that from the standpoint of human nutrition, it would be desirable to use the byproduct whey in the production of foods. In the manufacture of cheese, only the fat and part of the protein of the whole milk are removed. The resulting fluid whey contains half the solids of the milk, and of this solids content approximately 76 percent is lactose, or milk sugar, 10 percent is ash, and 14 percent is protein.

At the present time several types of whey are available for commercial baking purposes. They include dried whey, concentrated whey (with 60 to 65 percent of whey solids and 40 to 35 percent of water), and sweetened condensed whey (with 38 percent of whey solids, 38 percent of sugar, and 24 percent of water). In his baking tests, Rogers found that either concentrated whey or sweetened condensed whey could be substituted for the dried whey if allowance was made for the additional water and sugar in the concentrated products.

Complete formulas for the use of whey in the bakery products listed above are available from the Bureau of Dairy Industry, U. S. Department of Agriculture, Washington 25, D. C.

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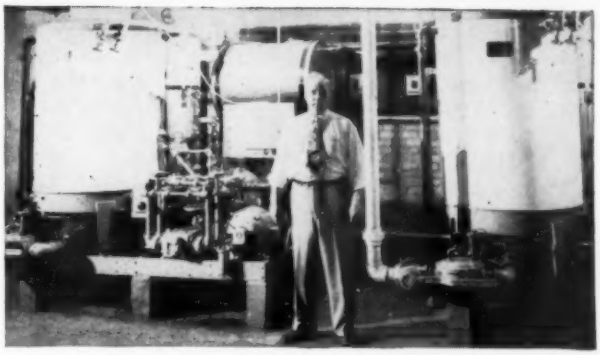

John Eiferd, prominent dairyman and president of Golden Star Dairy of East Liverpool, Ohio, slashed his steam costs from $1,600 to $375 a month after installing two CLAYTON FORCED RE-CIRCULATING STEAM GENERATORS. Hundreds of other Clayton equipped dairies across the country report similiar outstanding money-saving records.

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ROELOF DAIRY

(Continued from Page 22)

some time, however. Last year two important things took place – Mr. Roelof relinquished the business to his sons and the plans became a building.

Hutson Roelof is in charge of the plant while Bert looks after sales, finances, and the books. They make a good team. John Roelof likes to sit in with the boys when there is a hard one to figure out but for all practical purposes he has stepped aside in favor of his sons. "They are," he says, with the forthrightness of one who has earned the right to speak his mind, "a couple of mighty good boys."

The Roelofs operate in an area that extends about seven miles in all directions from the plant. The routes go out like the spokes of a wheel to Augusta, five miles, Richland, six miles, Climax, six miles, Scotts, seven miles, Gull Lake, six miles, and Comstock, five miles. Their loads average fifty cases of milk. They serve seven schools with milk put up in half pint containers. Cottage cheese goes out on the trucks every day packaged in one pound glass jars. They sell on the average of four hundred pounds of cheese a week. The dairy has five routes that are served every other day.

There are milk plants and there are milk plants. You can have the best building in the world with the most modern equipment but if you haven't got the men in the plant to run it the way it should be run you haven't got a plant. This one has the equipment and it also has the men. There are four of them. Their names are Bob Weesie, Chick Godde, Carroll Kindy, and Nip Stafford. They are a happy combination of good workmanship and affable disposition. They do their work well, they do it fast, and they do it as though they enjoy it. Presumably there are days when, like the pitchers who throw to DiMaggio and Williams, they say "Why do we beat our brains out doing this for a living". But judging from the appearance of the plant which is their hallmark of craftsmanship, those days are not common. You visit Roelof's and you see a plant that is just about as slick a small plant as you will ever find but you also see four men who know their business and who go at it as though there were more in life than a time clock and a pay envelope.

It is difficult to tie Roelof's Dairy up in one package and say "Here it is". The building is right. The equipment is modern and efficient. The business is compact and well run. Maybe the yard could be slicked up a little. Maybe there could be a little more room for the trucks at the receiving platform. But those are small matters that can easily be taken care of. What counts is the philosophy behind it all. In a world that too often finds little difference between red ink and black it is a stirring thing to find the old values reaffirmed. When they were asked if they wanted a contract arrangement in order to pay for the new plant over a period of time the Roelofs thought a moment and then said, no, they guessed they didn't want a contract. They guessed they'd take advantage of the thirty day discount. They did, too.

What we are trying to say is we got a sense of solidity, of integrity about the entire Roelof operation. The business was built on quality. The plant is a beautiful plant not because it is fancy or complicated but because it was built to do one thing and it does that particular thing in a superb fashion. The Roelofs did not go hog wild. They moved when their resources and their business indicated that a move was the logical step. They moved calmly and practically without fanfare and without fear. The result, which is always the result when men build on solid foundation, is magnificently good.

Dept. of Unalloyed Swank:

Geo. Christopher, the milkmagnate-Supervisor, is buying what he thinks must be the fanciest milk truck in the world – a $28,000 job with the usual stainless steel innards PLUS a stainless steel exterior. For its first day on the road, Christopher's driver, Joe Fassler, will be attired in white tie and tails!

From San Francisco Examiner

PATTERN FOR DISASTER

Continued from Page 8)

claims credit. What politician in his right mind is going to take up cudgels for a few hundred milk dealers when it will mean a price increase to the vast bulk of the voters?

A war, price or otherwise, is never a pretty business. This one is no exception. If anything, it is warfare at its worst. It is not even a fair war, if there ever was or can be such a thing. In spite of the claim of reduced operating costs it is a fair guess that Sheffield is losing as much money and probably more than anybody else. Estimates by men in the New York market place the monthly Sheffield loss at somewhere between two hundred and three hundred thousand dollars. If this is true, then Sheffield is drawing on outside sources to sustain it in the war. Presumably both Borden and Sheffield are paying for the war with profits from other markets. To the independent with no outside resources this is below the belt stuff. If Sheffield were fighting the battle on its own it would be one thing but backed by the full power of a great national organization it is quite another. Whether they like it or not the consumers in Cleveland and Philadelphia, in Chicago and Washington are paying for the price war in New York.

A by-product of the struggle and one that gets the gold plated barn shovel for its nauseating qualities is the eagerness with which the politicians have attempted to ingratiate themselves with the milk consuming voters by taking credit for the lower prices. Said Commissioner Murtagh when the war first broke out, "I admire an opponent who admits he is wrong". There are few times when a more perfect break is the lot of a public servant. Beaten almost to a standstill by the Spencer report and the New York State report, described by the hearing master at a Federal price hearing as "not knowing what he is talking about," the Commissioner was on the ropes and groggy. Lo, he picked up the paper of an October morning and there it was, the marines had landed – a two and a half cent price cut, for free. With a politician's flare for the dramatic,

all Mr. Murtagh had to do and did do most expertly, was to sit back comfortably and say in effect, "You see what I mean."

The Chairman of the New York State Temporary Commission on Agriculture, an able man and one who ordinarily sees things in their proper light, climbed aboard the vote getting special with the words, "In view of the findings of the Commission that cost reductions were possible and its various suggestions for achievement of such savings, all of which were available to and were studied closely by the milk companies in the previous seven months, the language of the Sheffield announcement is significant of influence by this commission and indicative of cooperation engendered by it within both management and labor."

Perhaps one should not criticize the gentlemen too strongly for eating the apple that dropped in their lap. After all the price cut is a fact and they said that it was possible. Also there is no argument that consumers are getting cheaper milk even if it is paid for by people in other markets.

Only Two Milk Shakes, Officer

Dairyman Oscar Rennebohm, better known as our governor, and a leading druggist, suggests that it might be a good thing if taverns would sell milk.

A milk chaser or mixer might, he indicates, modify the untoward effects of over-indulgence in the liquids (with which the governor is somewhat familiar) normally dispensed in taverns.

This suggestion raises all sorts of intriguing possibilities for promoting consumption of dairy products in the grog shops:

Milk with every martini! Butter with your bourbon! Cheddar with your champagne! More health and fewer hiccups! Line our farmers' pockets and save your stomach's lining!

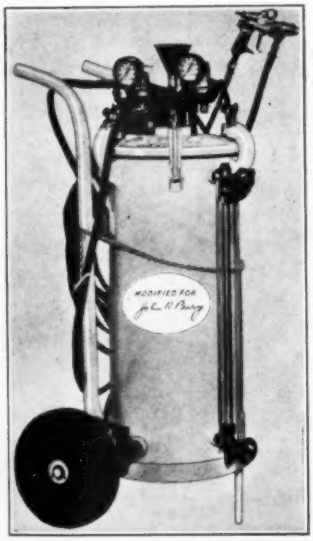
Then there is always that old combination of whisky in milk called "moose milk" which is highly regarded by those unfortunates who suffer from stomach ulcers and still choose to imbibe.

From Milwaukee Journal

Beyond these rather minor irritations stands the great basic cost of this war and all price wars like it. The losses in dollars and cents can be calculated. The number of businesses forced into bankruptcy can be ascertained. But who can place a value on the evil that blankets the New York market. Who can assess the cost in bitterness and distrust and suspicion that have come between men who were lifetime friends. Who can put a price tag on the failure of decency and honor in human relations.

Perhaps Sheffield will win the war. Perhaps there will be a truce. Perhaps the government will step in to settle the conflict. Perhaps, out of the shambles, men will be able to save some semblance of their businesses and their investments. But the scars will remain. The acquisition of a few thousand quarts of business is a high price to pay for a generation of bitterness. Some day, somehow, perhaps men will learn that the law of the jungle is not the law by which people in a civilized community can live.

Positive Sterilization
with the
"CHLORINE" SPRAY STERILIZER



Effectively, quickly and economically sterilizes by projecting, by means of low pressure air, the sterilizing solution in form of a mist *directly onto surfaces*—either at a distance or close-up—depositing a necessary film without undesirably "fogging" atmosphere. Made of materials of tested resistance to sterilizing solutions. Equipped with charging funnel and sight glass. Convenient — Sturdy — Long-lived. Many in use.

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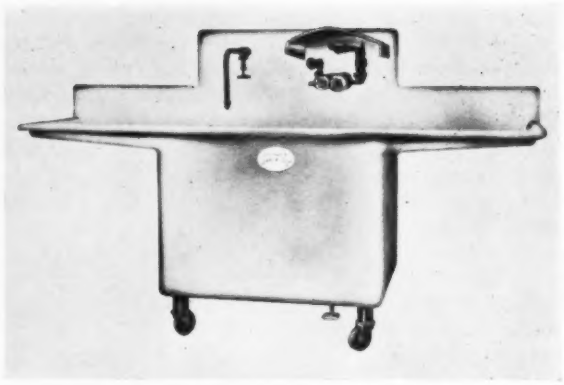
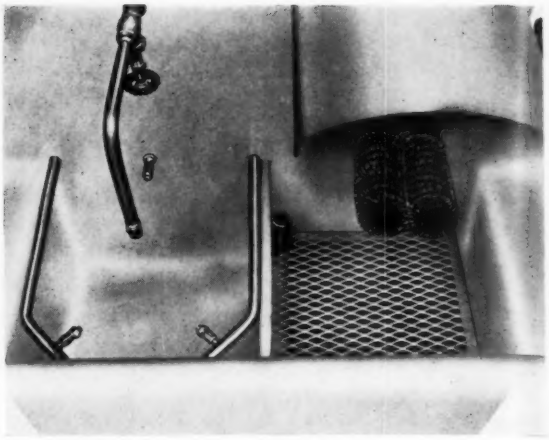


Combination Parts Cleaner is equipped with special brushes for scrubbing separator and clarifier discs. Distributor pipes convey cleaning solution to both sides of the discs.



A close up of the special brushes shows the rinse nozzles so arranged that discs as well as sanitary fittings can be quickly rinsed. An open drain is in rinse compartment.

EFFICIENT CLEANING

(Continued from Page 32)

which are properly spaced. This brush is refillable and very long-lived.

Sanitary Fittings Buggy

Without a proper vehicle, the transporting of sanitary fittings, small parts, separator bowls, homogenizer heads, etc. is a tedious matter which may take considerable time and which may also result in undesirable and expensive damage to the parts.

The Sanitary Fittings Buggy was designed to be desirably adaptable, flexible, sturdy and sanitary in construction. It comprises a frame of either stainless steel or Neoprene coated steel, the frame being of square stock with rounded edges, two removable shelves, corrugated for good drainage and coated with Neoprene and, if desired, a set of trays.

Where it is desired to transport heavy parts, such as a separator bowl or a homogenizer head, they are placed on top of one of the shelves. If it is desired to transport small items, such as sanitary fittings, they may be placed on the shelves or, more conveniently, in the trays which can be "loaded" and then placed on the shelves.

Combination Parts Cleaner

The Combination Parts Cleaner has the same "chassis" as the Sanitary Fittings Cleaner but the design of its functional parts is somewhat different so that it is possible to clean with it all the sanitary fittings and small parts which can be cleaned with the Sanitary Fittings Cleaner and, in addition, clarifier and separator discs.

The Combination Parts Cleaner was developed because a set of clarifier or separator discs can be cleaned so quickly with this unit that if the device is used only for cleaning discs it is idle most of the time even in large volume plants. So in order to get the maximum use out of the unit it was designed so that sanitary fittings and small parts as well as clarifier and separator discs could be cleaned with it.

When clarifier or separator discs are to be cleaned the proper brushes are placed in position and the "stack" of discs placed small ends down on the drainboard on the right. Then each disc is grasped by the operator's right hand and inserted between the brushes, big end first. The brushes are set just close enough so that the disc revolves at about one sixth the speed of the brushes. After the disc has been inserted between the brushes the operator grasps it loosely with his left hand and picks up another disc with his right hand. Then while he brings the next disc over to the brushes, he removes the first one with his left hand, holds it for a moment in the rinse compartment, small end down, where it is completely rinsed by several sprays of 115°F. water, the flow of which is controlled by a foot pedal and then places the disc,

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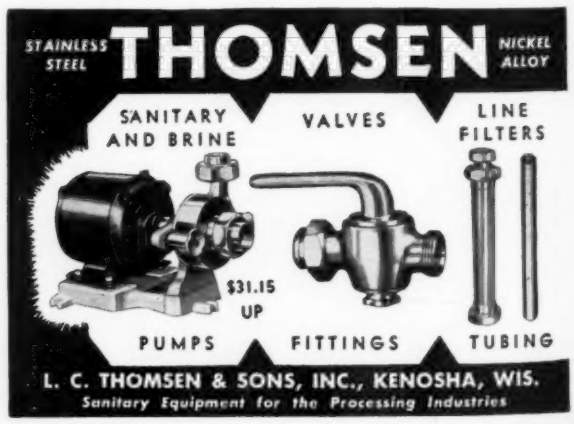

big end down, on the drainboard on the left. In the meantime, he inserts the next disc between the brushes with his right hand.

"Changing over" the Combination Parts Cleaner for cleaning sanitary fittings and small parts is a simple and rapid matter. The quickly detachable brushes for cleaning discs are removed in a trice and the distributor pipes which extend alongside the two brushes for cleaning discs are pushed back against the back wall and the valves ahead of them closed. Then the valve ahead of the overhead distributor pipe is opened so that the cleaning solution can drop from it onto the sanitary fittings brushes. Next the Special Sanitary Fittings Brushes are quickly installed and the double throw switch handle moved to the opposite position from which it is when the discs are being cleaned. Now the unit is ready for cleaning sanitary fittings and small parts and these are cleaned just as they are on the Sanitary Fittings Cleaner except that they are moved from right to left.

A double throw switch is used on the Combination Parts Cleaner because the Special Sanitary Fittings Brushes move in the opposite direction to that of the Special Brushes for cleaning Clarifier and Separator Discs.

In order to keep the Combination Parts Cleaner as simple as possible mechanically, a reversible pump for moving cleaning solution was designed. This reversible pump makes possible the using of one motor instead of two.

The closeness of the brushes is regulated by means of a crank, the handle of which is on the outside of the right side of the back cabinet where it can readily be reached by the operator while he stands in the working position. This crank moves the brush on the right closer to or farther away from the one on the left.

Two Special Separator (and Clarifier) Disc Brushes were designed for the Combination Parts Cleaner. One is larger than the other, the smaller brush being on the left when in position. These brushes are refillable and have Nylon bristles of the proper length and diameter which are particularly spaced for the job they have to do. Each brush has a set of "end bristles" so set that they will properly scrub the flanges on the ends of the discs. These brushes have a very long life although the "end bristles" wear out before those in the main part.

NEW WISCONSIN CO-OP

Dairy Lane, Inc., Co-operative—a recent consolidation in Milwaukee, Wis., of Clover Lane Dairy Co-operative and Dairy Distributors, Inc.—has named its officers and directors.

Officers are Hubert Staude, Johnson Creek, president; Ed Lueders, Cedarberg, and Charles Jaeger, Hales Corners, vice presidents; Gilmore Olson, Oconomowoc, recording secretary; George Heiser, jr., Milwaukee, secretary and general manager; Harley Mickelson, Milwaukee, treasurer and assistant manager.

In addition to the officers, directors include Alex Woelffer and Edward Klub, Watertown; Art Gantner, Belgium; Henry Bosch, Hales Corners; Bernard Maney, Mukwonago.

What's In *Your* Bottles?

BOTTLE SCOPE *Gives you the answer*

With a Bottle Scope on your conveyor line, you know EVERY bottle is clean and sound-free from cracks, chips and foreign matter. Bottle Scope affords a highly magnified view of the bottle from the top, to and through the bottom. No mirrors to distract inspector. Light source is easy on eyes — powerful yet non-glaring. Magnifier is 14" diameter optical glass. Light box 16 gauge steel finished in baked enamel. Shock proof connections and switch. Solid brass adjustable bottle guides. Fits any standard conveyor. Requires but 22" of space.

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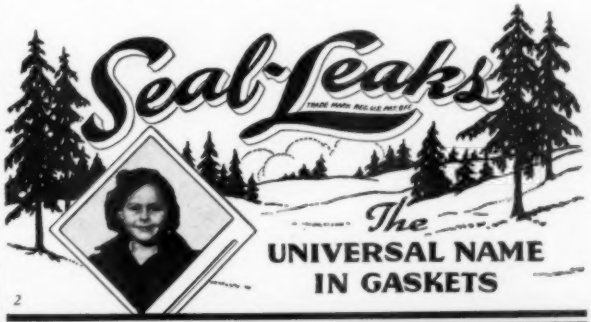
131 BALTIMORE PIKE LANSDOWNE, PA.

WHY NOT STOCK UP WITH
Seal-Leaks?

Thousands of canny up-to-the-minute milk plant operators, coast-to-coast, are stocking up with genuine *Seal-Leaks*. Automatic by-the-millions cut. Exact in shape and thickness. Every conceivable size and contour — and a country wide Jobber hook-up that brings *Seal-Leaks* "just around the corner" from your plant.

In sanitary neostyle unit containers that keep them always sweet and clean. Special sizes and thicknesses promptly to order—mail your Jobber the sample.

Ask your Jobber for SEAL-LEAKS by Name



BEAVERITE PRODUCTS, INC.
Beaver Falls, New York, U·S·A·

Footnotes for Fieldmen

A fieldman shows a dairyman the value of mounting used filter discs. Producers can see the benefit of good preparation of cows by this procedure.

A Badge of Merit for a Dairyman

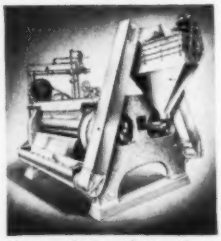
By **C. A. B. (BILL) BRYANT**

EVERY Dairyman properly equipped to sell milk for market has the material and instruments at hand to present to himself and the world, daily if desirable, his "Badge of Merit". This badge is his used filter disk-roll or strip – through which the milk flowed as it was poured from the milk bucket into a container to go to market. When this milk was drawn from the tests of the dairyman's healthy cows it was clean. His keeping it clean is proven when, after putting it into a clean, well cared for milk can, passing it through a proven single service fibre bonded filter disk roll or strip securely held in place in a desirable metal holder (a strainer), he mounts this disk.

To present graphically the various causes for sediment contamination of milk after it is drawn from healthy cows the author has taken hundreds of feet of 16 mm. colored motion pictures. He has edited these himself into a reel of 450 feet. He narrates this film when presenting it to various interested individuals and audiences of Dairymen, fieldmen, sanitarians, haulers and College Short Courses. This takes about thirty minutes. These scenes and narration cover the "Ten Common Causes of Sediment", which were classified after the author and his associates had made thousands of farm calls, many at milking time, in every state, upon farmers having had sediment difficulties. The following is the author's narration with this film. This talk without the film has its story which may prove helpful to the reader, even though not seeing the picture.

Returning to the city one evening after farm calls with a leading milk company's fieldman, we noticed, in passing the milking barn, lights on at what appeared to be an average dairy farm. We stopped our car, turned around, drove back into this farm barnyard. Getting out of the car we went into a small milk house, where we noticed a man moving about. Neither of us knew this place or dairymen. We introduced ourselves. We asked if we might take moving pictures of his filtering the milk. After the usual modest remarks of how poorly he might show in a picture, etc., enthusiastic permission was given. This was a Grade A fluid milk producer. He had one of the latest two-piece milk strainers, one having an 18-quart bowl, with a guiding ledge to center properly a 6½" single service filter disk, and a raised baffle dome, to lock in the disk, so you can see the white edge of the disk all around the dome

Better DRY MILK
AT LOWER COST



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Built in Five Sizes

The Patented, glass-smooth, "20-year cylinders" give years and years of maximum production of a superior dry milk at the lowest possible cost.

Many other exclusive features insure long life with low steam and power costs. Complete details upon request

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I CAN SERVE YOU...

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- On equipment design to meet sanitary requirements
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- On introduction of new products
- On setting up operations
- With advice on potentialities of new businesses

A. J. SMITH
Consultant for Milk and Food Industries
30 CHURCH ST., NEW YORK 7, N. Y., BEEKMAN 3-2933

XUM

when both are properly placed in strainer. He was using a 6½" single face single service disk properly with the gauze down. This prevents the cotton from being pressed because of the weight of the column of milk into the large perforations of the bottom of the strainer. The gauze on the single face disk threads bridge across these holes. This makes for faster filtering and lessens the temptation to jam or bounce a strainer.

Setting up for the moving pictures we attracted the attention of two small boys, the dairyman's sons – our future dairymen – one six and one four years old. Both looked on with keen attention. This Dairyman used a milking machine. Milk was poured, as brought from the stables, bucket by bucket into the strainer. When the first can was full we asked this dairyman to mount the used disk upon the piece of cardboard we gave him. We did not tell him or show him how we might do it. We let him do it himself in his own way. He was a little shaky, not because moving pictures were being taken, but as he expressed it, "How will this disk look?" Milking by machine there was little foam upon the disk. The result was noticeable right away. The disk was clean.

He pointed to the used mounted disk. His face responded with a big gleam of pride. Each of the little fellows followed to emulate their dad and also pointed to this clean, used disk. Here was this Dairyman's "Badge of Merit". He said: "I always try to keep everything clean. I keep the stables clean–the cows–the utensils; I wash the udders before milking, and am careful with my milking methods –yet you took me by surprise. I did not know you were coming, and above all going to take moving pictures. I was a little afraid as to what we might find on that used disk." He said he liked the idea of checking himself and would do so frequently, as he specially noted the impression it had made upon his sons.

Typical of conditions prevailing in practically every state in the nation at some time of year. Special preparation is needed under such circumstances.

The Hand Milker, Too

My fieldman friend and I decided that the next day we would repeat our experience. This time we would find a farmer without a milk house and one who milked his cows by hand. We called upon a strange dairyman just as he was beginning to milk. He had no opportunity for any special preparation. By coincidence we found the strainer and disk used here were the same as at the previous farm. Hand milking incorporated a lot of foam into the milkpail. When the straining was completed the farmer timidly, in his own way, mounted the filter disk. The foam was so heavy it stood up fully three inches upon the used disk. It looked so clean, white and good, one could compare it in appearance to a fine white of egg beaten frosting for an angel food cake. Such white foam may be deceiving as to what might be underneath. We let the foam run off, took time to let the disk dry. The disk was clean. Here also fine preparation had preceded the milking. This disk was a true "Badge of Merit". This farmer's wife and two small sons had been attracted to the scene. They shared the husband's and father's joy in his being clean in the handling of this fine food.

Many, many of our milk producers all over these United States can have unexpected pleasure when they mount their used filter media and see that they did good work in preparing their cows for milking. Many, many farmers are in for a shock when they do this the first time. These farmers, however, quickly see the lesson and react favorably. They determine to do better.

So that farmers may have proper holders for a 6½" single service filter disk, eight manufacturers to our knowledge are making a strainer of this described type. All of these strainers use a 6½" single service cotton disk. The author has collected 114 different strainers for holding filter

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METAL SPONGES
Designed especially for cleaning all types of dairy equipment and utensils. Will not rust or splinter, cut the hands or injure metal or plated surfaces. Kurly Kate Metal Sponges are fast working, easy to use, and easy to keep clean. Made in STAINLESS STEEL, NICKEL SILVER and BRONZE.
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FOR EASIER INDUSTRIAL CLEANING
SOFT ON HANDS
SANITARY

Can care both before and after they receive milk is essential if the milk is to reach the market as clean milk. This blanket of dust is bad medicine for a sediment fighting industry.

disks during his twenty-one years in this field of work. Many of these types are yet in use. Some people use a 6" disk when a 6½" disk should be used.

Speaking of these 114 strainers as to their practical service to farmers, we might borrow from the bible, "Many are called, but few are chosen". To paraphrase it, "Many are manufactured but few are of value."

The mounting of the used filter disk at the farm has given us an opportunity to study how sediment not in the milk bucket may be in the can of milk when it arrives at the milk plant. This frequently has occurred when all sediment was kept out of the milk pail and the used mounted filter disk at the farm showed clean. Sometimes at the farm when first mounting the used filter disk, it may show "by-pass". The disk was the wrong size and could not be properly centered in the strainer, or the farmer did not put a disk of proper size into his strainer correctly. Many farmers must be shown the correct way to put a disk into his strainer consistently. In such cases, if some sediment should get into the milk pail accidentally, it "by passes" the disk. So the used mounted disk does not show a true picture of workmanship.

Proper Grooming Important

When the used mounted disk is clean it indicates cows have been properly groomed before milking. Clipped hind quarters and udders are desirable, washing the udder just before milking with a "throw away" individual paper towel soaked in a warm sanitizing solution both helps sterilize the hands and washes the cow's udder. To demonstrate to a dairyman, use a clean white cloth on a cow with a white udder which looks clean. The amount of dirt wiped upon the cloth will surprise you. Milk into a white porcelain pan or pail from a cow whose udder has not been washed. You will be surprised at the appearance of sediment on the sides and bottom of the white container.

We called upon a dairyman who had a pet 4-H Club milking heifer in a nice, luscious grass plot near his house. As a matter of convenience he milked this heifer outdoors temporarily. The weather was good. The fine old big house tomcat always looked on. He asked for food. This farmer, as have many of we farmer boys done, responded to the cat's asking, and squirted a stream of milk into the cat's open mouth. I secured this scene for my movie. Here we have direct delivery of milk from producer to consumer. NO SEDIMENT PROBLEMS. As the cat got this clean milk from this healthy heifer direct into its mouth. This farmer's English sheep dog and Scotch terrier cross, also looking on during the milking, could stand it no longer; he drove the cat away. Then with his teeth he picked up a nearby small open pan and brought it to his master. The farmer milked into this pan and gave the dog a good supply of milk. The dog took his milk from a container. Here the thought struck me — now sediment problems begin. Man wants his milk supply in much larger quantities so he has introduced the milk pail, milk can, milking machine, strainer, etc., to get this supply to market. His sediment problems begin. Therefore man has challenged himself to see that this nearly perfect food, cow's milk — clean when drawn from the teats of healthy cows — is kept clean all the way to market and on to the consumer.

The mounting of the used filter disk at the farm is the first step in finding out where man has slipped and where any corrections are needed.

Watch the Details

Where is the can lid of the milk can when the milk strainer is on the can? Is this milk can lid dropped anywhere, left where it can catch dust and be contaminated? Care should be taken to put the lids in a

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- Durable Aluminum Exterior.
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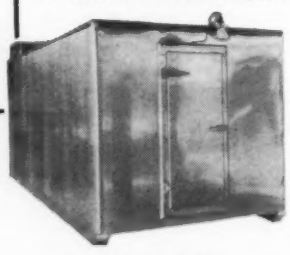
Refrigerated Storage Depots
Portable refrigerated storage and low temperature holding space.



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The easier you make ordering "extras," the more extras you'll sell. When you distribute E.Z.C. Order Signals on your routes, customers are constantly reminded of your "extras" and ordering is simply a matter of placing E. Z. C. Order Signals in empty bottle. Route men like E. Z. C. Order Signals, too. Order is taken at a glance. No illegible handwriting to decipher.

No notes to write. Customer simply places card in empty bottle.

A constant reminder to order "extras."

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clean place, free from dust and dirt while the filtering is going on. A simple holder of parallel pieces of broomstick spaced the width of the cover neck is easy to make and costs practically nothing. These can be placed in the wall. Covers can be placed on these holders right side up.

Failure to rinse the strainer thoroughly every time a filter disk is changed is a common reason for sediment getting into a clean can of milk. For best results, a disk should be changed for each can of milk to show the results of good milking preparation and care.

When a milking machine is used, suction cups should not be allowed to get close to floor or bedding, where they will pick up dirt. They should not be placed on a dusty box or shelf when milk is being poured into another container or through the strainer. A clean oilcloth covered box should be handy. Better still, have an extra milk bowl with cover to make immediate transfer.

When an inferior or cheap disk is used, especially in a strainer not giving the cotton disk any baffle protection from a direct pour of the milk, separation of the fibres may take place, causing what is commonly known as a "wash". Sometimes a direct hole is the result. Mounting the used disk clearly shows this, and a true picture of workmanship cannot be had. A fibre bonded single service cotton disk will withstand any direct pour and no "wash" results. The best practice is to pour milk upon the side of the strainer.

Any dairyman having sediment problems should examine the water used to rinse his milk cans for sediment. Frequently rinse water has considerable sand and earth sediment which will cling to metal. All such water should be filtered.

Every fieldman should visit a few patrons under his supervision at milking time. He should be a bystander observing what takes place. On a visit of this nature with a fieldman friend the writer observed that this fieldman noticed the dairyman, in rinsing his equipment with a sterilizing solution, did not pass this sterilizer through the disk and strainer. The dairyman's hands come in contact with the disk and touch the interior of the strainer. The solution also should be used there. It would not hurt the disk for filtering milk. So this fieldman sent out a notice to all his patrons to be sure and check themselves on this point. Only by an occasional milking time call can some of these little natural human neglects be detected.

WHAT WAS THE MENU?

Out of one traffic jam, it seems, you can get two dinners and a red face.

Roger Harrison, a radio farm hour director of Station WBZ, hurried from his Newton, Mass., home to be the principal speaker at a meeting of the New England Milk Producers' Association, but he got caught in a traffic jam and it slowed him down.

He finally arrived all aflutter just in the nick of time as the first course was being served to several hundred diners in the hotel roof garden. Everyone greeted him cordially, and he was seated at the head table.

After dinner the toastmaster introduced Harrison . . . to the Housewares Club of New England.

Sheepishly, Harrison explained the situation, rushed from the roof garden and down 13 floors to the hotel information desk.

He arrived "just in the nick of time" in the main floor banquet hall . . . where he found the dairymen just starting the first course. Harrison was not dismayed. He started eating again.

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"Servants To The Dairy Industry"

BOX A — CINCINNATI 3, OHIO

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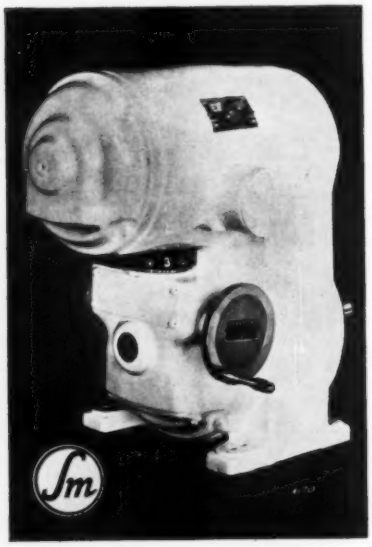
USING OUR SEPARATOR

Variable Speed Motor

STERLING ELECTRIC MOTORS, Inc., of Los Angeles has announced that their variable speed "Speed-Trol" motor is now available with provision for sealing speeds at a positive setting or within



any predetermined range of speeds. In all plants where sanitary conditions are paramount a white finish can be supplied. The mounting dimensions of these Speed-Trols are interchangeable with NEMA standard motors.

This new Speed-Trol is available Totally Enclosed, Splash-Proof or Drip-Proof.

One important application for this type of unit is for driving pumps for high temperature pasteurizing where the pump speed may be sealed in accordance with sanitary regulations. Other applications include agitators, mixers, blenders, grinders, feeders or any process where control of speed will improve quality or quantity of production.

●

Bulletin On Varnishes

SUPERIOR ELECTRICAL impregnating varnishes to withstand conditions of extreme temperature and humidity are discussed in a brief review of this field released by the Office of Technical Services of the U. S. Department of Commerce.

The varnishes, developed in research for the Signal Corps, are described in a detailed report which has now been made publicly available.

The article on impregnating varnishes appears in the current issue of the "Technical Reports Newsletter" issued monthly by O.T.S. The Newsletter also contains items on surplus electronic equipment; alignment of machine tools; blast driving of anchorages; water softeners; cargo vessels and cargo flooring; nylon lacquer; textile research; German iron and steel developments; and other technical reports.

Single copies of the Newsletter are available on request from the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C., or from U. S. Department of Commerce field offices.

New Klenzade Catalog

KLENZADE PRODUCTS, Inc., of Beloit, Wisconsin announces a completely new catalog of its extensive line of detergents, bactericides, and other products. The catalog is unusual in its field because of the inclusion of a great amount of technical information not heretofore available in simple non-technical language.

The catalog contains a virtual "short course" in cleaning chemistry and the fundamentals of soil removal.

The action of alkaline and organic acid cleaners is discussed in relation to their suitability for various types of cleaning jobs. Wetting agents and their characteristics are also described to augment the general knowledge of these newer types of products. Of special interest are the many diffierent

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LYOPHILIZED* for UNIFORMITY • VIABILITY • STABILITY
Save Time—Save Money—Avoid Trouble. Use rapid-growing 'Frigidry' cultures to produce mother culture in one generation and take guess work out of making good buttermilk, butter and cheese.
FREE Write for Booklet No. 206 on production of Cultured Dairy Products.
GENERAL BIOCHEMICALS, INC.
25 LABORATORY PARK • CHAGRIN FALLS, OHIO
*New, high-vacuum, sub-zero drying process.

Klenzade Services enumerated in the catalog such as laboratory services, water analysis, plant sanitation programs, chemical feeding devices, water treatment equipment, and Klenzade educational programs available to organizations desiring speakers on specific sanitation subjects. A short summary is also given of pH values and the reading of the pH scale.

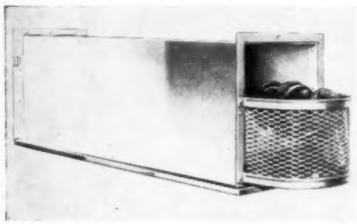
The new Klenzade catalog is 8½"x 11" in size, loose leaf in form, and conveniently cross indexed by product names, product groups, and cleaning jobs. The company points out that the book has been planned as a constructive aid to the executive and working personnel in dairy and food plants to help them in a better understanding of cleaning and sanitizing problems.

●

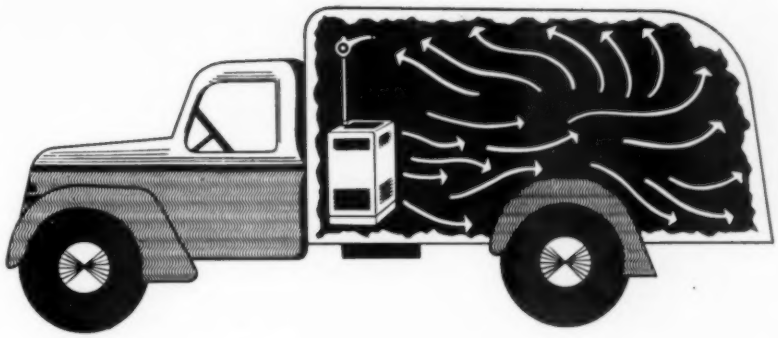
Dry Ice Bunker

FOSTER-BUILT BUNKERS, Inc., have announced a new addition to their line of Dry Ice bunker units used for low-cost truck refrigeration.

The new unit, called the "Super Cold Shot Bunker," is designed particularly for refrigerating door-to-door



delivery trucks carrying both frozen and nonfrozen loads. The unit features a dual air-flow design that forces the air into contact with the Dry Ice twice for extra refrigeration before



circulating the super cold air throughout the truck body.

Tests recently completed in Florida, according to the manufacturer, have proved the efficiency of this new bunker even under the most adverse operating conditions. The test was conducted over a 400-mile route with a high outside temperature of 97°. The load consisted of both frozen and nonfrozen meat products. Despite frequent door openings . . . 40 over the full route . . . the frozen products were delivered in a frozen condition and the fresh meat products were delivered at the same temperature at which they were loaded, the manufacturer states.

●

Truck Refrigerating Unit

THE AIR INDUCTION CORPORATION announces its "Better Than Ever" 1950 line of refrigeration units. This unit, which is known as the Air Induction Air Conditioner, works on the principle that heated air rises. The unit is designed with an intake ducting which draws in warm air from the top or ceiling of the truck and circulates it through the ice area. This assures clean, fresh, cool air which is forced out along the floor of the truck. Thus, the heat blanket is removed and the cooled air must rise.

Water ice is used as a cooling medium because of its high moisture content and is the only refrigerant known that will preserve the bloom and not cause dehydration. Water ice is safe, economical and efficient.

Because of the distinctive and patented design of the unit, dirt, bugs, etc., are forced out through the drain pipe by the meltage runoff.

Units are supplied complete with motor, ducting, flue, etc., ready for installation. They operate from the truck battery, using approximately the same amperage as an ordinary truck heater, and are available in five sizes for trucks from 150 cubic feet up to 700 cubic feet capacity. The units can be installed by any mechanic. In cold weather when the unit is not needed, it can be removed, leaving the ducting where installed.

Further information can be obtained by writing to Dept. AMR, Air Induction Corporation, 122 West 30th Street, New York 1, N. Y.

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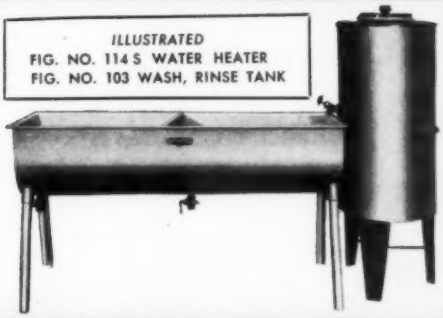
EQUIPMENT
FOR THE FARM MILKHOUSE
THE FIRST CHOICE OF DAIRY FARMERS
WHO PRODUCE GRADE "A" MILK.
See Your Dealer or Write for Complete Information

ILLUSTRATED
FIG. NO. 114 S WATER HEATER
FIG. NO. 103 WASH, RINSE TANK



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No classified advertising will be accepted to run with borders or special spacing. All such advertisements are considered "Display" advertising and will be billed at regular display advertising rates. (Rates and mechanical requirements on request.)

EQUIPMENT FOR SALE

FOR SALE—Specialty Brass 6-valve bottle filler, $600, used 14 months; Econ-O-Seal bottle cap feeding machine, puts on an aluminum cap, used 11 months, $500; 2 stainless steel milk pumps, 1½ inches and one inch; 1 Taylor recording clock, $30; one 200 h.p. Kelvinator compressor, $200. Write Clarence Farms Dairy, Clarence, New York. 5-M

FOR SALE—Bottled milk dairy in Upper Michigan. Attractive resort region. Annual gross business $48,000. Two trucks. Write Box 300, care this publication. 5-M

FOR SALE—DIVCO truck in good condition, in use every day. Looks like the new models. Price $300. Write Grand View Dairy, La Fayette, Indiana. 5-M-1

FOR SALE—24 mold Vaden brine tank complete with automatic ammonia temperature control. Good as new. Replacing with larger tank, available May 15th. $1,000. Write Asselin Creamery Company, Norway, Michigan. 5-M-1

FOR SALE — Quart milk crates and bottles. One good quart milk crate and 12 round squat quart milk bottles with No. 2 cap seat at our plant at $.36 complete for case and bottles. Also one Creamery Package 10 valve bottle filler at $300.00 at our plant. Present equipment is now being used but can be bought at short notice. Write Maurice Casey, Inc., 19 Dubois St., Westfield, Mass. 5-M

FOR SALE—HEIL Trailerized milk tanks — brand new — stainless steel — fully insulated —sloping bottom and all famous Heil features — capacities from 2500 to 3750 gallons. IMMEDIATE DELIVERY. Write The Heil Co., Milwaukee 1, Wisconsin. 5-M-1

FOR SALE—100 and 150 gallon Stainless Steel Cherry-Burrell pasteurizers; 750 ft. of 1¼ inch Ammonia coils; quart and pint cases for round bottles. Write Shively's Dairy, 454 Norland Avenue, Chambersburg, Pennsylvania. 5-M

EQUIPMENT FOR SALE

REBUILT—Pasteurizers, Milk Coolers, Bottle Fillers, Ice Machines, Plate coolers and heaters. Send us your requirements. Ohio Creamery Supply Company, 701 Woodland Ave., Cleveland 15, Ohio. 5-M-tf

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SPECIAL OFFERINGS—Three Jensen Stainless Steel Cabinet Coolers each containing 8 wings, 56 tubes high; Two Mojonnier Stainless Steel Cabinet Coolers, 6 wings each, 72 tubes high; Three 14 ft. Specialty Brass Internal Tubular Cooler (or Heater) Sections with ten 2-in. s.s. tubes, never used; 12 ft. Creamery Package I.T. Cooler (or Heater) with 28 2-in. stainless steel tubes. Write or wire your requirements. Lester Kehoe Machinery Corporation, 1 East 42nd Street, New York 17, New York. Telephone—MUrray Hill 2-4616. 5-M

FOR SALE—Creamery Package 3-in. x 3-in. compressor. Self contained unit with cooling tower. Five h.p., 3 phase motor, $500.00 Baker 3½-in. x 3½-in. compressor with oversize condenser and receiver. Seven and a half h.p., 3 phase motor, $500.000. Compressors need only minor repairs, just stopped using them. One thousand gallon steel brine tank with set of ½-in. ammonia coils, $100.00. Creamery Package rotary, 3 can per minute, can washer, $400.00. Cherry-Burrell box type preheater with four 1½-in. stainless steel tubes, $200.00. Six foot tubular cooler, 24 tubes, distributor pipe and trough, with covers, $100.00. Write Turner Dairies, P. O. Box 212, Anniston, Alabama. 5-M

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FOR SALE—5-S-10 C.B. water cooler, 50 ton capacity, water level control, used less than year, replaced with larger equipment. Write C. M. Johnson, 5507 Howard Street, Omaha, Nebraska. 5-M

FOR SALE—Five thousand lb. York Short Time Pasteurizer complete including section for cooling raw milk; 100 to 300 gallon Stainless Steel Pasteurizers; 1000 gallon Cherry-Burrell Horizontal Coil Vats with stainless steel linings and tinned copper coils; No. 27 Creamery Package Filler and Capper; G-70, G-160, GV-20, GV-24 Cherry-Burrell Fillers; 4, 6 and 8 Wide Bottle Washers; Creamery Package and Lathrop-Paulson Can Washers, 3 c.p.m.; 125 to 1500 gallon Homogenizers or Viscolizers; about 135 ft. Power Can Conveyor, also 20 ft. Power Case Conveyor with Booster and Power Can Conveyor, also 20 ft. Power Case Conveyor with Booster and Power Units; 2000 and 3000 gallon Pfaudler Glass Lined Storage Tanks for by-products only; Cherry-Burrell Churns, 300 and 600 lb. capacity; 3 ft. to 6 ft. Stainless Steel, also Copper Vacuum Pans. Write or wire your requirements. Lester Kehoe Machinery Corporation, 1 East 42nd Street, New York 17, New York. Telephone—MUrray Hill 2-4616. 5-M

FOR SALE—1 6-20 Cherry-Burrell Bottle Filler (motor driven) $300.00; 1 2-section Cooler with cover (6 feet wide) $150.00; 1 4-wide Sturdibilt Bottle Washer $200.00; 1 Preheater $75.00; 1 7½ Gal. per minute McCormick-Deering Separator (motor driven) $75.00; 1 Weigh Unit with platform Scale $50.00; 1 12 H. P. Leffel Boiler $200.00; 1 Babcock Tester $50.00; 1 G-100 Cherry-Burrell Bottle Filler (3 cappers for 48 MM. bottles) (3 cappers for 51 MM. bottles) $700.00. Prices quoted are F.O.B. Newport, Kentucky. All of this equipment was in use in the past 30 days. We will be happy to supply further information if desired. Write Clover Leaf Dairy, Newport, Kentucky. 5-M-1

FOR SALE — One Cherry-Burrell churn, 200 lbs. butter capacity, purchased new about two years ago, used lightly and in excellent condition. Write Sauquoit Valley Dairy Company, Inc., 491 French Road, Utica 4, New York. 5-M

FOR SALE — Heil trailerized milk tanks—brand new—stainless steel—fully insulated—sloping bottom and all famous Heil features—capacities from 2,500 to 3,750 gallons. IMMEDIATE DELIVERY. Write The Heil Co., Milwaukee 1, Wis. 5-M-2

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FOR SALE—MILK PLANT in South Central Indiana, 5 retail and wholesale routes. Complete modern equipment. 1950 gross will be around $170,000.00. Good location to start quality ice cream. 12,000 local population. Will sell business, real estate and equipment or will consider leasing the real estate. Write Box 292, care this publication. 5-M

DAIRY-RETAIL WHOLESALE—Sales $7,200 month; retail store, two buildings fully equipped; 300 gallon daily; four routes; employ six; paper milk containers; ice cream, butter, complete line; six employees; no competition; Ohio county seat; sell with property. Write APPLE COMPANY, BROKERS, CLEVELAND 15, OHIO. 5-M

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WANTED — Milk clarifier, capacity 6-12,000 lbs. per hour, Grade A requirements. Also square milk bottles and crates. Write Columbia Produce Co., Columbia, Tenn. 5-M

WANTED — Anderson Model No. 102 Junior Hand Filler, and attachments for Ice Cream Cups and Packages in good condition. Write Mahanna Bros., 1706 Whitesboro St., Utica, N. Y. 5-M

WANTED—Stainless Steel milk tank trailer. Two to 3000 galonns, single or 2 compartment. Must be in good condition. Write The Bennett Creamery Co., Ottawa, Kansas. 5-M

BUSINESS OPPORTUNITY

FOR SALE—At reasonable prices and terms, roller driers, vacuum pans, whey tanks, storage tanks, truck tanks and trailers and also a few air tight De Laval separators. The Stepp Company, P. O. Box 1469, Minnehaha Station, Minneapolis 6, Minnesota. 5-M

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POSITION WANTED — Experienced operator, bottled milk, by-products, ice cream. Pure-Pak experience. Write Box 290, care this publication. 5-M

POSITION WANTED — I am at present looking for an operator's job or creamery work. Have had some 20 years experience in the field. I was plant superintendent at Hutchinson, Minn., for Kraft Food Co., where we made churn, spray and roller powder, plastic cream, butter and ice cream. Am 49 years old. References, write Alfred Hugstad, Zumbrota, Minn., and Ben. M. Zackariasen, Land O'Lakes Creameries, Inc., Minneapolis, Minn. Write Box 291, care this publication. 5-M

POSITION WANTED — Dairy and Ice Cream Accountant — Capable Executive — Excellent Background — Highest References from major and independent manufacturers. Write Box 302, care of this publication. 5-M

MILK ACCOUNTANT-CONTROLLER—Twelve and a half years accounting experience in dairy industry; butterfat and financial accounting; thorough knowledge of milk marketing, government regulations. Salary $200 per week. Reply to Box 262, care this publication. 5-M

POSITION WANTED—Milk Grade A Supervisor, for milk producing farmers. Instructor, sanitary requirements and general health of herd. Cheaper and better milk production. Veterinary schooling. Lifetime of experience. Soon available, and for a reasonable salary. Write R. H. Crandall, Box 234, Belen, New Mexico. 5-M-1

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WANTED—Production Manager, capable of handling 1,000 gallons per day, also must know ice cream and mix. Strictly sober, Dairy school background preferred. Location Columbia, South Carolina, good salary for right man. State experience. Write Carolina Dairies, Columbia, South Carolina. 5-M

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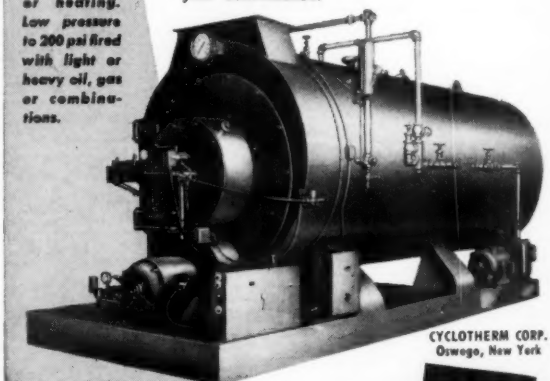

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